PRINTING EQUIPMENT

Offset Platemaking —First of a Series

Automated Truck Loading Dock Speeds Handling

Gummed Paper Runs Are Easy—If You Observe Rules

Great Lakes Conference Studies Newer Techniques

Before and After Effects of Lighting Composing Room Area
(SEE PAGE 5)

Please Pass On To:

YOU GET MUCH MORE WITH The STAR SELECTRO-MATIC QUADDER

When you install a Selectro-Matic Quadder, you get much more than the fine quadding mechanism itself. In addition to the Quadder with its memory system, hydraulic actuation and push-button controls, many machine improvements are installed with the Selectro-Matic Quadder. They all help make quadding and non-quadding composition more efficient.

HERE ARE THE SELECTRO-MATIC EXTRAS:

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- One-Piece Assembling Elevator Gate with Friction Rail
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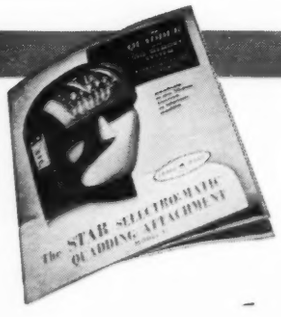
- Electro Pump Stop Safety
- Non-Slip "No-Set" Delivery Slide
- Hardened Improved Assembler Slide and Brake
- Adjustable Vise Locking Screws with Replaceable Tips

For a complete Quadder choose the Selectro-Matic Quadder.
Write for 8-page brochure with all the details.



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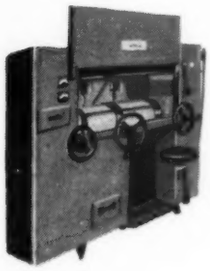
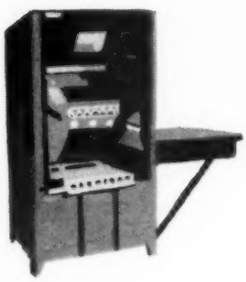
For More Information Circle 167 on Reader Service Card

for newspaper COLOR stereotyping . . . . it's STA-HI



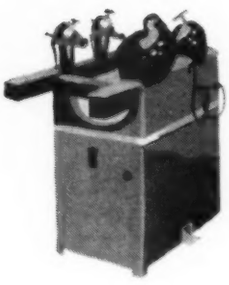
STA-HI TWIN-PLATE ROUTER

For volume production of color stereoplates. Routs two identical page plates simultaneously! Has every conceivable automatic feature for fast, precision routing, plus provisions for ease of operation and safety for the stereotyper.



STA-HI MASTER MATCHER

Makes possible close register of color mats for R.O.P. or color press production, before plates are cast, through image-to-image comparison of actual printing areas and establishment of accurate register reference points.



STA-HI MASTER TRIMMER

Can be used separately or in conjunction with Master Matcher to pick up accurate register reference points on color mats and trim them uniformly to assure precision register in casting equipment, either hand box or automatic.

STA-HI VACUUM FLAT FORMER

For drying and flat-forming color mats to assure uniform processing during critical registration operations. Can also be used for routine handling of advertising and editorial mats to assure highest quality flat casts. Machine is similar to Master Former in design and operation.

235 West Washington Boulevard, Whittier, California . . .

STA-HI CORPORATION

For More Information Circle 165 on Reader Service Card

Since he installed A.W. ALGRIP his feet haven't slipped off once!

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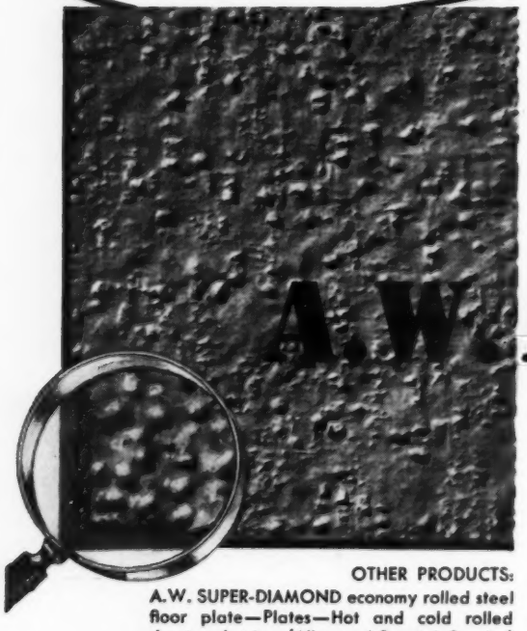
Check your plant for areas where slipping hazards may exist. A.W. ALGRIP provides super-safe footing under the most hazardous slipping conditions—even on inclined surfaces. Send the coupon for A.W. ALGRIP information, today.



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ALGRIP—*approved for safety by Underwriters' Laboratories*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send A.W. ALGRIP Booklet **AL-E30**

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OTHER PRODUCTS:
A.W. SUPER-DIAMOND economy rolled steel floor plate—Plates—Hot and cold rolled sheet and strip—(Alloy and Special Grades)

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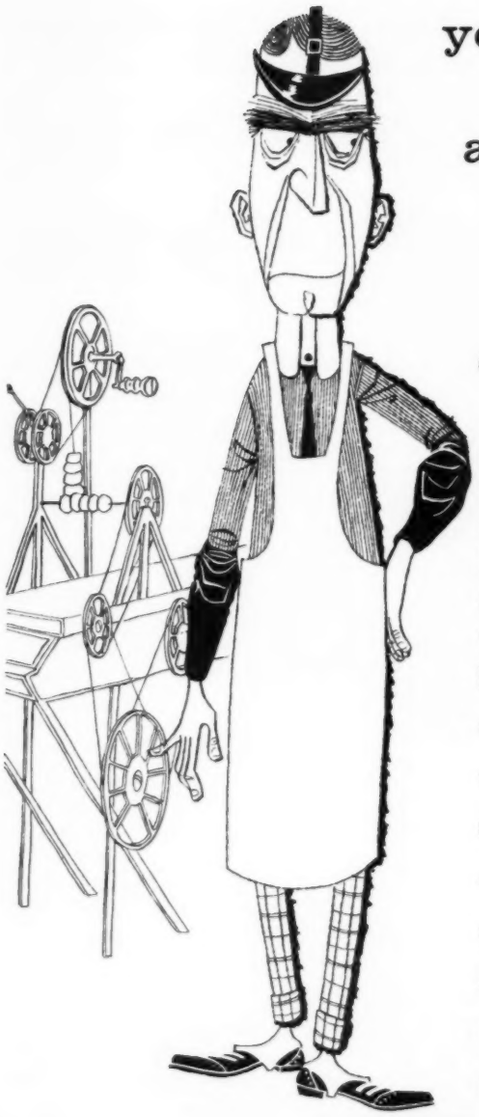

your collating and tipping methods are OUTDATED!

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If you are still using old-fashioned hand collating and tipping methods, you are losing valuable business . . . AND PROFITS! Didde-Glaser's Speed-Klect – THE ONLY FULLY AUTOMATIC SHEET COLLATOR TO AUTOMATICALLY GATHER AND GLUE ONE-TIME CARBON FORMS AT HIGH SPEED! – will let you produce MORE jobs . . . FASTER . . . with LESS hand work!

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* **HIGH SPEED . . . WITH PERFECT REGISTER!**
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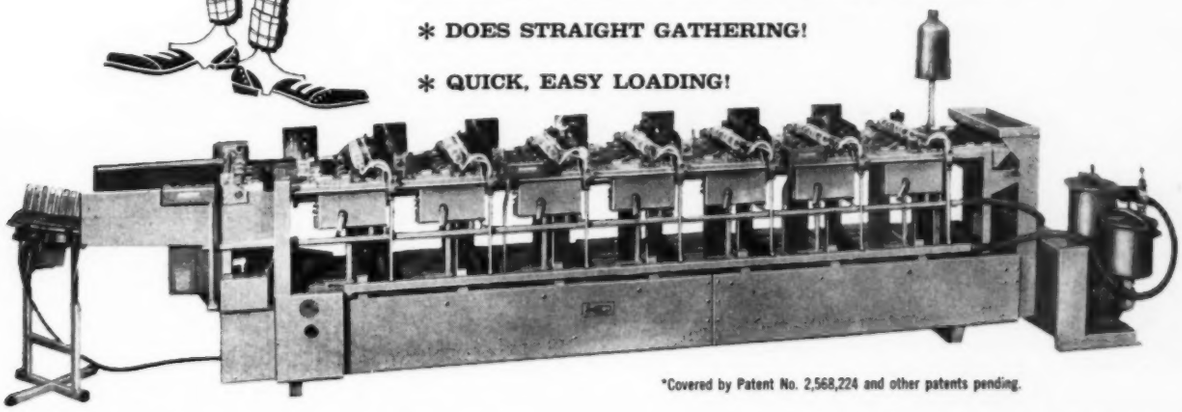

*Covered by Patent No. 2,568,224 and other patents pending.

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#4 sheets and 3 carbons

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Dept. PEE-2

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☐ Please send the 11-minute, 16 MM, color, sound film "Speed-Klect in Action."

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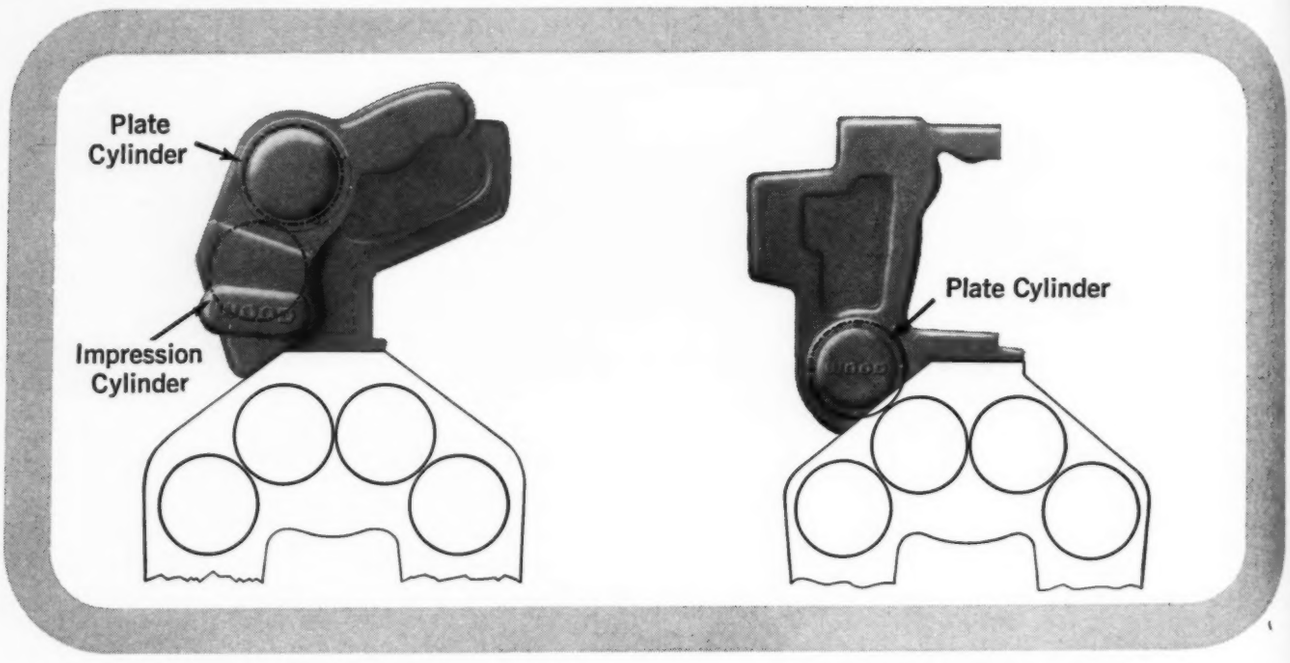
For More Information Circle 231 on Reader Service Card

IT IS EASY
TO CONVERT ANY WOOD BLACK-AND-WHITE UNIT
FOR COLOR



A—Color couple attached to WOOD Black-and-White unit.

B—Color plate cylinder mounted on WOOD Black-and-White unit.

By the Addition of a Color Cylinder or a Color Couple, **any** Wood Black-and-White Unit becomes a Color Unit.

By reversing certain Printing Couples and the use of Portable Color Ink Fountains, spot color or process color may be printed on either side of the web . . . making color available where you want it.

Color Couple, complete with its own plate and impression cylinders and its ink motion is equally simple to install as shown in schematic drawing (A).

Color plate cylinder with its ink motion can be added as shown in schematic drawing (B).

Follow the trend . . . Convert WOOD Black-and-White Units to print color.

Send for literature describing this easy method of using ROP color.

IF IT'S Wood T'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

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MAKERS OF PRESSROOM, REELROOM AND STEREOTYPE EQUIPMENT FOR A CENTURY

For More Information Circle 190 on Reader Service Card

FEBRUARY 1958
VOL. 88, NO. 5

PRINTING EQUIPMENT *Engineer*

THE PRINTING PRODUCTION MAGAZINE

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in all major processes of the Graphic Arts industry.

REGULAR DEPARTMENTS

Graphic Arts Literature, 28
Research Notes, 36
Patents for the Graphic Arts, 62
Equipment Sales and Installations, 72
Graphic Arts Meetings, 74
News Items, 76
Advertisers' Index, 82

EQUIPMENT & SUPPLIES

Stock Rubber Plates with Register Marks, 12
Hydraulic Clamp Cutters, 12
Aluminum Threaded Binding, 12
Cost Cutter Slug Stripper, 16
Index Tabbing Machine, 16
Counter and Stacker, 16
Offset Liquids, 16
Pre-determined Counter, 18
Cyclomatic Box Crusher, 18
File for Business Cards, 22
Air Cooled Compressors, 22
Vinyl Plastisol Plate Compounds, 24
Two-up Attachment for Miehle Vertical Press, 24
Fortune Bold Italic, 24
Anti-jam Device for Knife Folders, 24
Intertype's Dual Duty Quadder, 46

PRINCIPAL ARTICLES

31 *Offset Platemaking Series Begins*
By ADAM HENRI REISER

33 *Relighting the Composing Room*
By ALONZO TAYLOR

34 *Automated Truck Loading Dock*
By RONALD A. WHITE

38 *Flexible Printing Plates — Part II*
By EDWARD H. OWEN

41 *Gummed Paper Runs Are Easy If You Follow Rules*

44 *How to Analyze Teletypesetter Production*
By AMOS G. HOFFMAN

52 *Great Lakes Mechanical Conference Report*
By MacD. SINCLAIR and E. H. OWEN

Appeals for Acceleration of Improved Stereo Techniques, 52
Automated Mailroom is Close, 53
Press Supervisors Told of New Developments, 54
Engravers Hear Latest Reports on Processes, 55
Linecasting Machine Operations Analyzed, 58

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Accepted as Controlled Circulation Publication at Cleveland, Ohio.

OUR COVER: One area for improvement in many printing plants, both commercial and newspaper, is in illumination of working areas. At least the Boston *Herald-Traveler* thought so when it undertook the relighting of its composing room. The before and after effects are graphically shown in the cover illustrations and more completely described on page 33 by the lighting engineer who was in charge of the project. We thought this served as a splendid example of what can be done by using newly-developed lighting sources and principles. A well lit production department which has eliminated the dark corridors and ceiling areas will, at the least, provide a psychological change for the workers. Study the two pictures and see if you don't agree.

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Newspapers, magazines, and gravure plants throughout the world have made color more profitable with the Hurletrons. Write Electric Eye Equipment Co., Danville, Illinois for full details.

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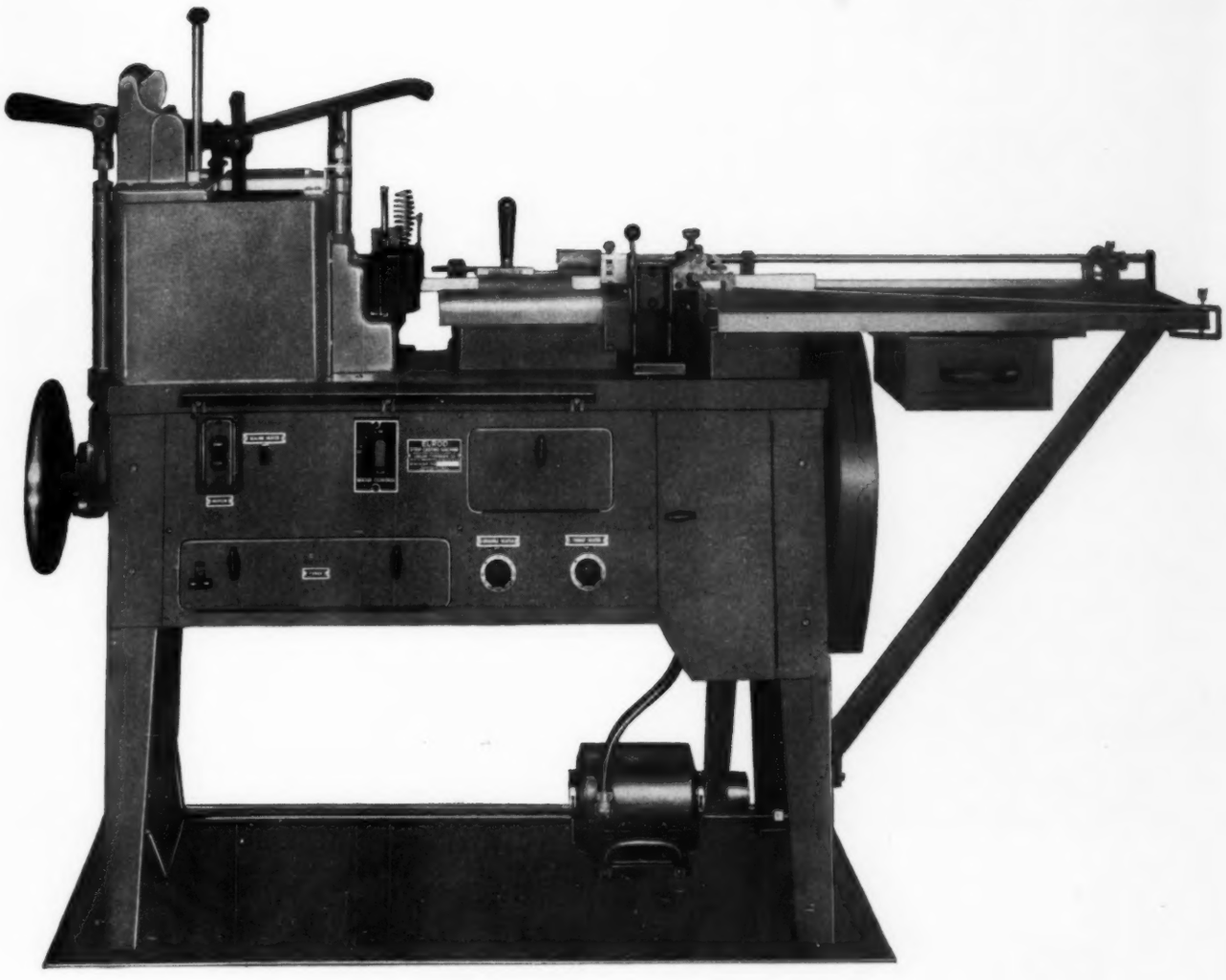
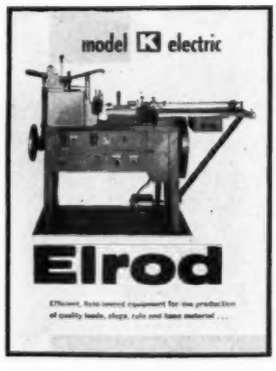


model K Elrod



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Elrod users can profitably add the model K as supplementary equipment, thus permitting continuous operation on 2 point leads, 6 point slugs, or other largely used material. The model K uses standard Elrod molds up to 18 points, and these molds are interchangeable in all six Elrod models.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

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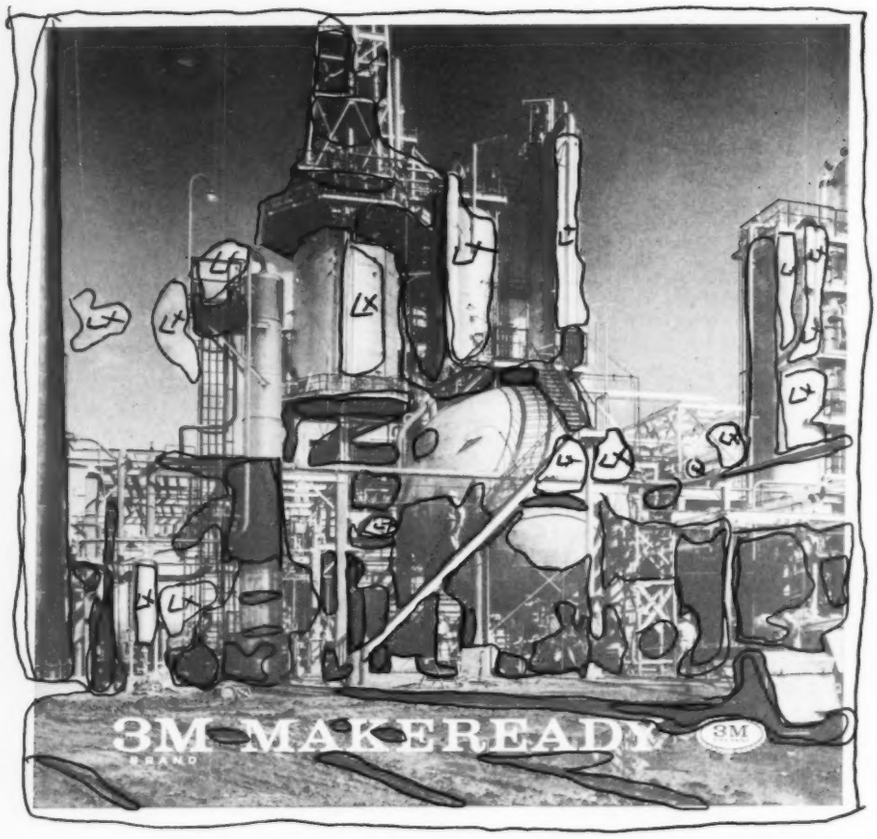

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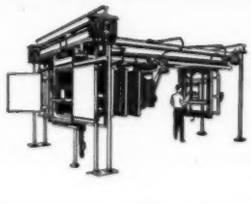

Type set in Monotype faces 20th Century and Century Expanded No. 20.

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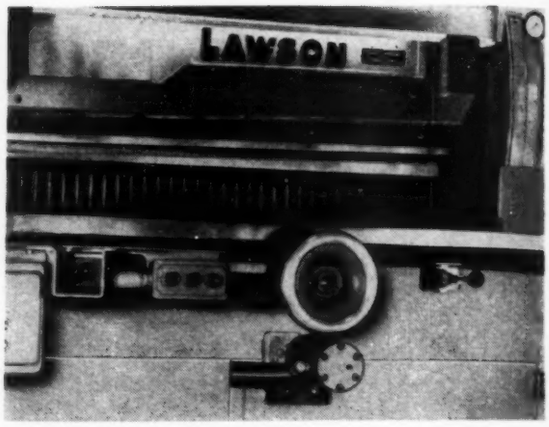
For More Information Circle 102 on Reader Service Card

Equipment & Supplies

If you wish additional information concerning equipment, supplies, and/or technical literature, please make your request on *Printing Equipment Engineer's* Reader Service Card found in this issue.

Stock Rubber Plates With Register Marks

Stock rubber plates equipped with register bullet marks for mounting directly to plate cylinders on multi color rubber plate printing jobs have been announced by Mosstype Corporation. East plate, which is designed to be cut apart by the user, consists of 54⅛ in. circles and 54 1/16 in. bullets. As many circles are mounted on the key color cylinder as there are colors on the job, while one bullet is placed on each of the remaining cylinders. Location of bullets in respect to circles on the print shows whether or not colors are in register. Plates, which may be used over and over again, are available with or without stickyback, in natural or synthetic rubber. Circle No. 254 on Reader Service Card.

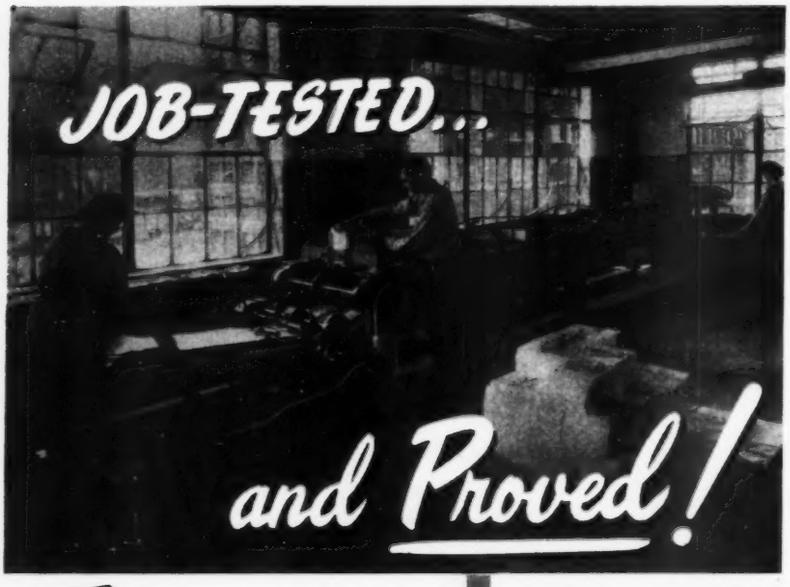


Hydraulic Clamp Cutters—Positive clamping control that prevents the knife from moving before full pre-selected clamping pressure has been applied, is a feature of the Lawson Series V65-H hydraulic clamp cutters. Made by the Lawson Company, Div. Miehle-Goss-Dexter, Inc., cutters are equipped with electro hydraulic operated clutch and break and a special pressure interlock system. Pressure adjustment on cutter is variable and can be changed by operator for each type of stock. Hydraulic clamping mechanism is separate from the knife action. When starting levers are actuated, the clamp moves down under its own weight, excess air is forced out of the lift and clamping pressure is instantly built up. It is said pressure interlock system prevents sheets from shifting out of alignment. An upward flip of two hand-operating levers puts cutter into action. Releasing either lever causes knife to stop instantly. According to D. W. Schulkind, Lawson president, cutters are equipped with many safety features, including non-repeat device and overload device. Cutters are available in 46 in., 52 in., and 55 in. sizes. Circle No. 273 on Reader Service Card.

Aluminum Threaded Binding

Aluminum is now appearing in durable book bindings, it was announced recently by Aluminum Co. of America. Lustrous metallic thread, made of Alcoa aluminum by Metal Films, Inc. was used in the binding of a 30 volume *Makers of History* series published by Robert Speller & Sons Publishers, Inc., New York, N. Y. It is the first such application of aluminum. Kendall Mills and A. D. Smith Co. wove the black and silver fabric, and H. Wolff Book Mfg., New York, N. Y. did the binding. Circle No. 251 on Reader Service Card.

(*Continued on Page* 16)



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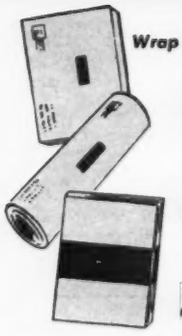
You can cut *d-a-y-s* off your wrapping and addressing time by the use of MAGNACRAFT units. Many magazine publishers are proving every day that a lot of time and money can be saved with one or more of these time-tested, comprehensive MAGNACRAFT machines or components. They are amazingly flexible and adaptable to simplify and expedite any and every mailing room problem . . . *yours* included. Let us prove it. Write now for facts.

Individualized groupings or combinations of MAGNACRAFT units can be arranged to perform any or all of the functions listed below.



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WRAPPING & MAILING MACHINES · TIP-ON MACHINES · LABELING EQUIPMENT · FEEDERS

For More Information Circle 109 on Reader Service Card

HIGH PRODUCTION AT LOW COST

For the Progressive Medium Sized Daily...

The Goss Dek-A-Tube press is engineered to meet the requirements of publishers of progressive and growing newspapers of intermediate circulation. It offers high production, fine printing quality and simplicity—all at low operating cost.

It is a tubular plate press of advanced design. Only one stereotype plate per page of printed matter is required, regardless of size of product.

Operating speeds are from 25,000 to 30,000 papers per hour. Page capacity ranges from 4 to 48 pages. Net production remains uniformly high for full range of product size, permitting later deadlines and earlier deliveries.

Flexibility of operation is an outstanding feature of the Dek-A-Tube. The size of the newspaper can be increased in multiples of two pages to efficiently meet fluctuations in advertising lineage.

Any printing couple can be used for color, allowing a wide range of flexibility for color printing.

Flexibility to meet pressroom conditions and for expansion is another feature. Presses can be arranged with two or three decks . . . in tandem . . . or twinned. And decks can be added as the newspaper grows.

Primary consideration has been given to accessibility and simplicity of operation . . . adjustments and controls within easy reach . . . ample working space between units . . . tension plate lockup . . . removable ink fountain pans.

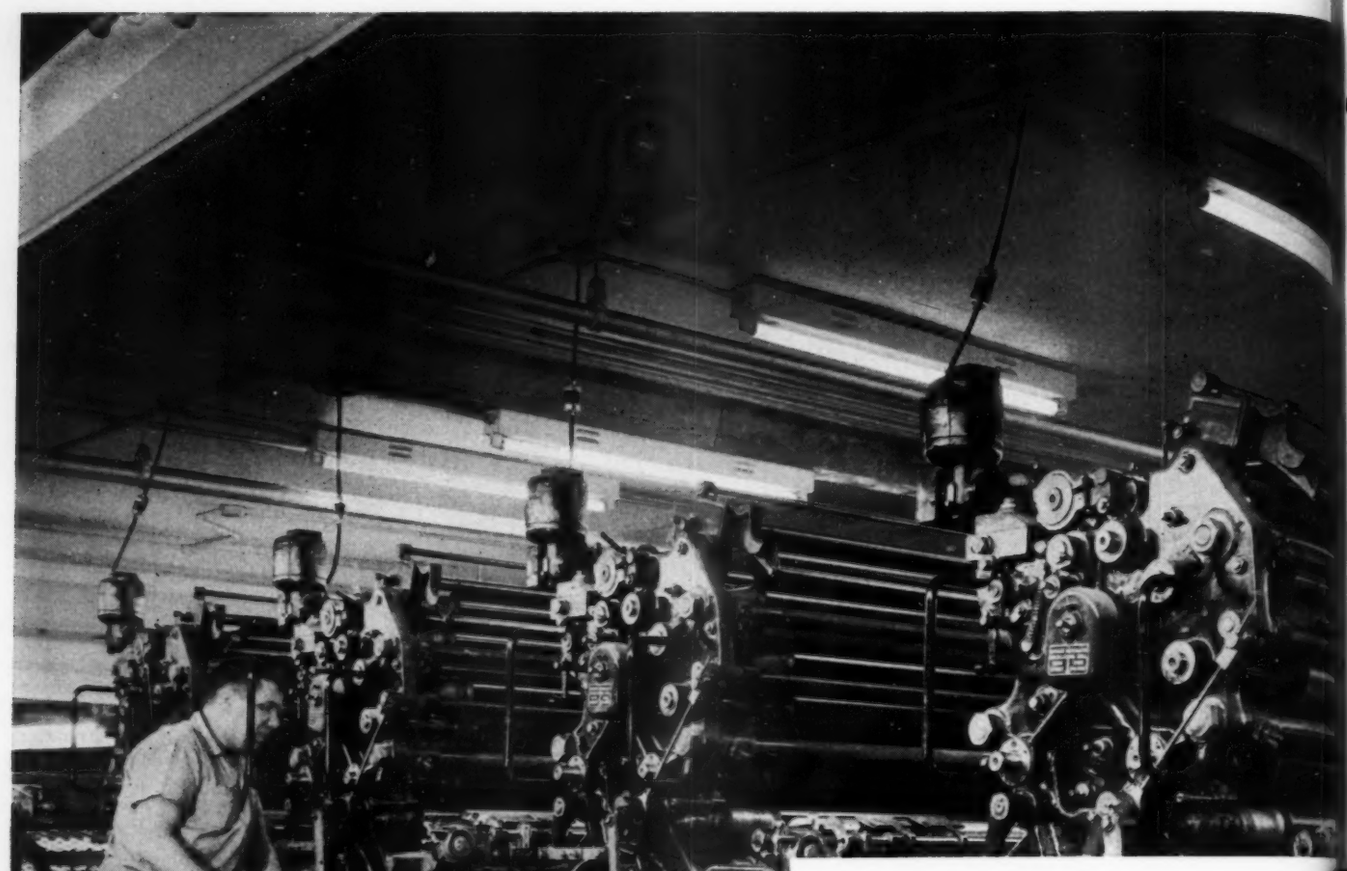
- ★ **Up To 30,000 Papers Per Hour**
- ★ **4 to 48 Pages Standard Format**
- ★ **Goss Tension Plate Lockup**
- ★ **Heavy Duty 48-Page Folder**
- ★ **Color On Any Printing Couple**
- ★ **Goss Continuous Ink Feed**
- ★ **Operating Convenience and Safety**
- ★ **Flexibility for Today and Tomorrow**

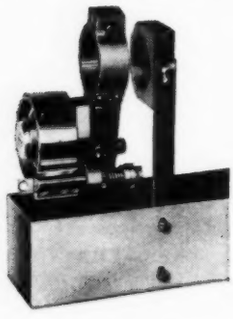
Write for the new illustrated booklet describing the Dek-A-Tube

THE GOSS PRINTING PRESS COMPANY

Division of Miehle-Goss-Dexter, Incorporated
5601 WEST 31st STREET, CHICAGO 50, ILLINOIS

For More Information Circle 72 on Reader Service Card

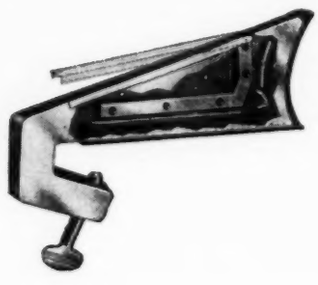




Duenewald Printing Corp., eliminates 2 out of 3 and 3 out of 4 runs on multi-color jobs with Dayco Color Separators and Fountain Dividers.

Setting up for 14 color catalog on a 4 color Harris press, they ran one color on the first and fourth sections, while the second and third sections, equipped with Dayco Color Separators, ran six colors each. Result—two press runs were eliminated without cutting a roller.

Full information is contained in a free brochure that's yours for the asking.



For More Information Circle 48 on Reader Service Card

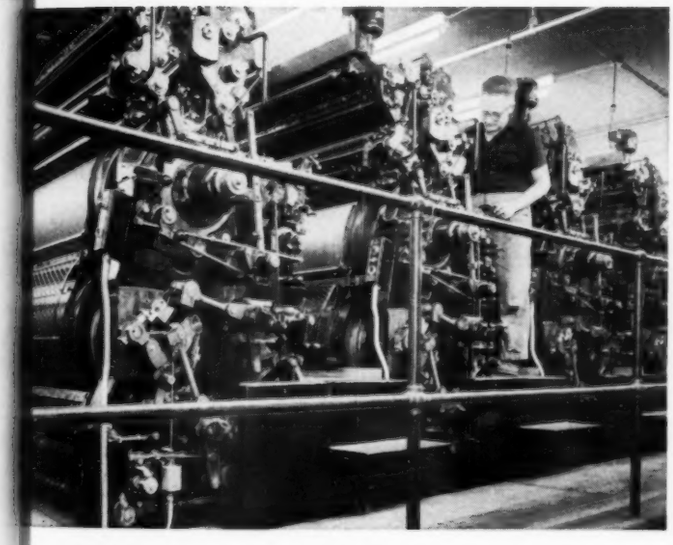
"DAYCO LITHO ROLLERS Give ⅓ MORE LIFE Than Any Rollers We've Used..."

says Rudy Vitale, Press Foreman, Duenewald Printing Corp., New York, N. Y.

"At Duenewald Printing Corporation, we expect a roller to last 18 months . . . but Dayco rollers consistently give us 1/3 more service, averaging two years or more.

"We ran a comparative test of 48 rollers on a new litho press installation . . . 24 Dayco rollers and 24 competitive rollers. After nearly a year's service, the Dayco rollers show no pits, chips or cracks.

"Dayco Rollers give us 1/3 more mileage and do a better job of laying ink. Every point on a Dayco Roller is part of a perfect circle — thus we can set and hold a .003 tolerance without worrying about high and low spots causing uneven distribution of the inks. And, when you count the time saved by faster wash-up, you can see why Dayco Litho Rollers are first choice here at Duenewald."



"When we ran a comparative test on this press, we had to replace 8 out of 24 competitive rollers in less than a year while all 24 Dayco Rollers are still in service after almost two years."

"We can easily set and hold a .003 inch tolerance with any of our Dayco Rollers without worrying that high or low spots will produce uneven distribution of inks."

© D.R. 1958

THE DAYTON RUBBER COMPANY, Dayton 1, Ohio
1486 Lakewood Avenue, S.E., Atlanta, Georgia
West Coast Distributor, Tillicum Rubber Company, Lacey, Washington

DAYCO ROLLERS . . . for Offset, Letterpress, Newspaper, Corrugated Boxboard, Gravure, Flexography, Coating, Graining, Steel Mills.
Dayco Offset Blankets, Dayco Fountain Dividers, Dayco Color Separators.

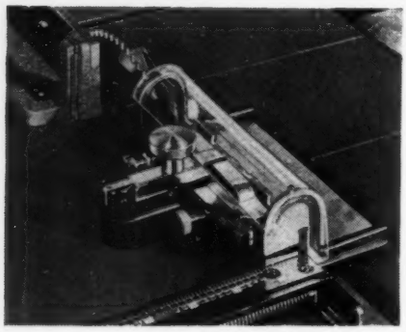
Dayton Rubber

Equipment and Supplies

(Continued from Page 12)

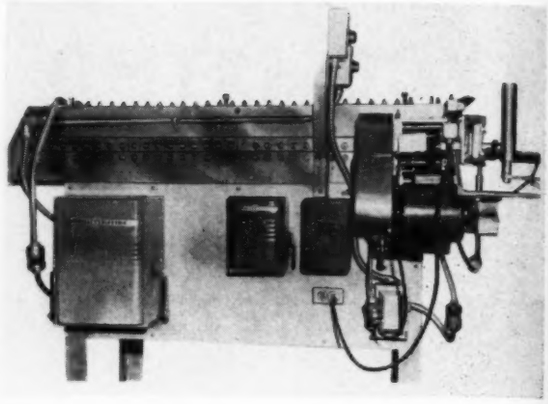
Cost Cutter Slug Stripper

A slug stripper, said to enable precision stripping of slugs 1 pt. to 36 pts., 30 picas long, and single type castings to 72 pts., has been introduced by the Pate Company, distributors of Cost Cutter saws. Stripper



inserts in a groove in the saw table and is locked against gauge bar by the workholder. An initial adjustment of set screw and lock nuts controls stripping thickness of 0.065 in., 0.105 in., or 0.152 in. Standard saw blades can be used. Safety features include transparent visual safety shield, bumper which butts against saw arbor to prevent damage if saw blade is not lowered for stripping, and the safety sidetray. Latter catches remainder of slug after stripping. Gliding table is then pulled back from the saw blade providing safe access to the stripped slug. Idea for the tool was conceived by Ray S. Brown, publisher, Columbus (Ind.) *Evening Republican* as a companion piece for the newspaper's Models B and C Cost Cutter Saws. Later it was developed by Fastener Corporation. Circle No. 261 on Reader Service Card.

Index Tabbing Machine—An automatic index tabbing machine for heat sealing tabs on sheet paper in any form has been introduced by Tauber Plastics, Inc. Machine is used to automatically form tab, cut tab, feed and place it in position, and seal hand fed sheets of paper. Cycle is said to repeat itself as fast as operator can feed sheets into machine. Production rate is 3000 sheets per hr. Circle No. 270 on Reader Service Card.



Counter and Stacker

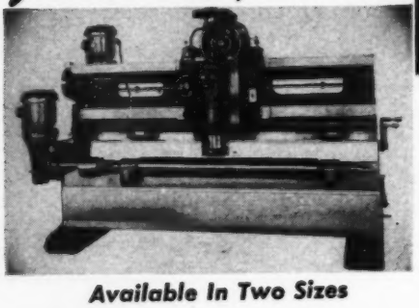
The Taylor counting and stacking machine, distributed by T. W. & C. B. Sheridan, is pneumatically operated and electrically controlled. It is used to automatically count and stack a predetermined number of magazines or books, to be delivered to the next mechanical step in the bindery production line. Machine permits turning hand operation into a mechanical one. A stack dial controls number to be stacked, and width and length can be adjusted by means of a hand wheel. Circle No. 267 on Reader Service Card.

Offset Liquids

Ortman-McCain Co., reports its new, free flowing stop offset liquids provide a protective guard on the sheet surface that prevents offset and thus presents a cleaner printing job. The offset liquids, it is stated, are non-clogging, non-settling,

(*Continued on Page* 18)

Gravure Cylinders **MIRROR SMOOTH**



The Ultimate in Precision GRINDING and POLISHING MACHINES

Available In Two Sizes

29 Years of Quality and "Know-How"

Grinding and polishing copper plated Gravure Cylinders is done with special "Intaglio" stones. Water is used as a coolant, thus eliminating all dust. The resulting finish is finer than obtainable with paper and is completed in half the time.

STANDARD PROCESS CORPORATION

Manufacturing Gravure Equipment and Supplies

2704 WEST ROSCOE STREET
CHICAGO 18, ILLINOIS

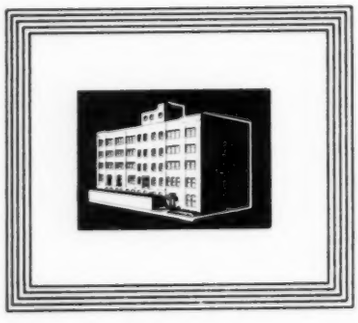
For More Information Circle 196 on Reader Service Card

offset plates by

Graphic Arts Corporation of Ohio

Our thirty years' experience in color and in black and white work, assures you of printing plates of the highest quality.

110 OTTAWA STREET • TOLEDO 4, OHIO



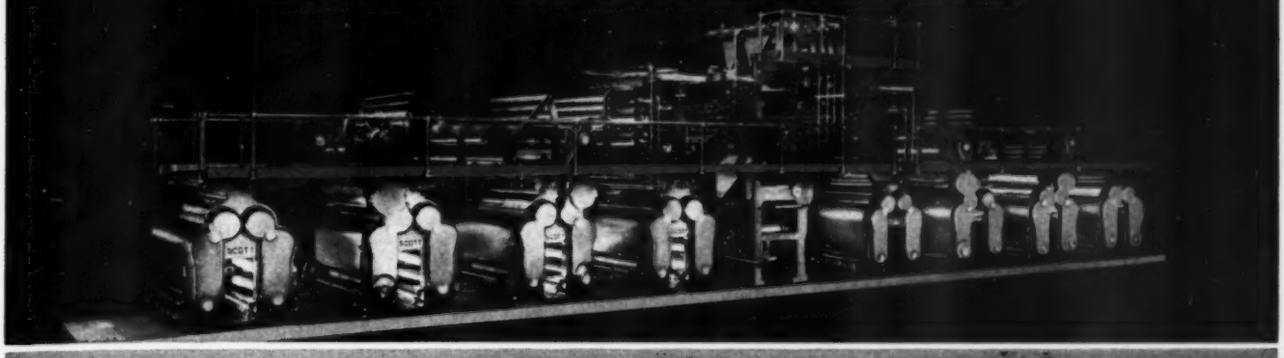
New York Office
342 Madison Ave.
Room 712
New York 17, New York

Chicago Office
201 North Wells St.
Room 722
Chicago 6, Illinois

For More Information Circle 74 on Reader Service Card

If it's NEW... SCOTT has it!

PRESS UNITS ... with provision for ROP color

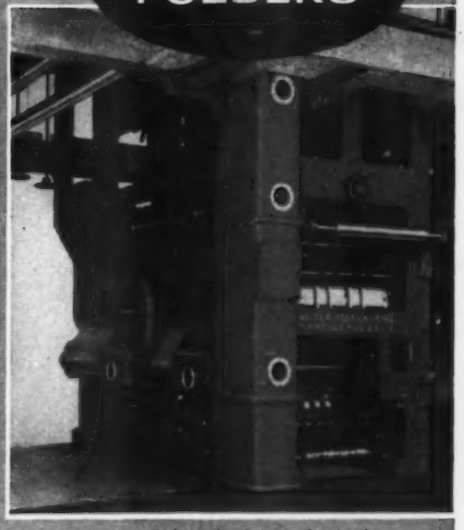


Typical SCOTT 8-Unit black and white press with 5 color cylinders for ROP Color and 3-2 Folder. Built in any number or combination of units.

REELS, TENSIONS & PASTERS

Simple in design, dependable, easy to operate and adjust. Built to serve any make of press.

3-2 FOLDERS



The famous 3-2 ratio folder featuring capacities up to 128 pages with either folded or cut edge forward. Combines precision, accuracy and speed.

The SCOTT family of satisfied customers is growing steadily. More and more newspaper plants are installing SCOTT presses, Reels, Tensions, Pasters, Folders because they are dependable and economical in operation.

Look to SCOTT for the newest ideas in newspaper presses and equipment. If it's NEW, SCOTT has it! *Send for literature describing SCOTT equipment.*

Hoe

WALTER SCOTT & CO.

DIVISION OF WOOD NEWSPAPER MACHINERY CORPORATION Plant: Plainfield, N. J.
EXECUTIVE & SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17, NEW YORK

SCOTT presses

BUILDERS OF PRESSROOM AND REELROOM MACHINERY AND EQUIPMENT SINCE 1875

For More Information Circle 156 on Reader Service Card

Save HALF Your Saddle Stitching Costs!

This is no trick at all when you use the Rosback Auto-Stitcher. Want proof?

Rosback®

Auto-Stitcher Features

- Basic machine has two stitching heads and slide stacker delivery.
- Seven accessory attachments, including continuous belt delivery, are available to meet the requirements of printing plant or bindery of any size.
- Low in price—less than half that of any gang stitcher.
- Cuts costs—as much as 50% or more when compared to hand stitching.
- Handles short runs at low cost—saves tying up expensive gang stitcher equipment.

One experienced user reports:

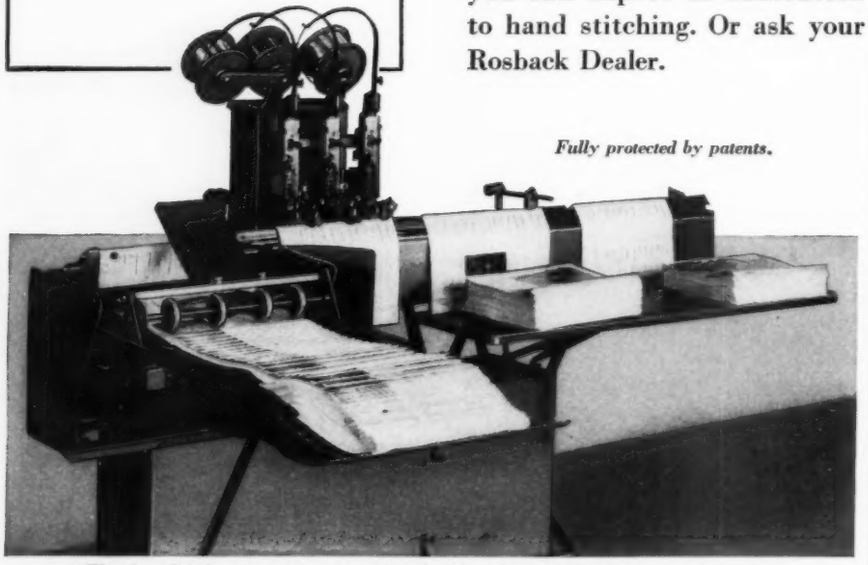
"Using our Auto-Stitcher two girls now do in eight hours what formerly took five operators working eleven hours. That's a clear saving of 70% in direct labor alone!"

Can you think of any easier way to cut costs and earn *extra* profits in *your own* business?

It costs you nothing to find out about the Auto-Stitcher and how it makes possible such valuable savings. And there's no obligation.

Send us samples of your average stitching jobs. We'll gladly give you complete description of the Auto-Stitcher and a careful, conservative estimate of the savings you can expect as contrasted to hand stitching. Or ask your Rosback Dealer.

Fully protected by patents.



The Auto-Stitcher shown here is equipped with a third stitcher head, continuous belt delivery and second feeding station.

F. P. ROSBACK COMPANY • Benton Harbor, Mich.

WORLD'S LARGEST MANUFACTURERS OF PERFORATORS, WIRE STITCHERS AND PAPER PUNCHING MACHINES

For More Information Circle 151 on Reader Service Card

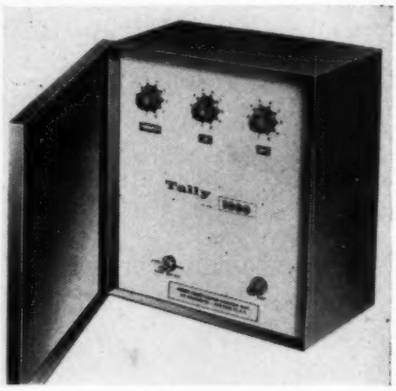
Equipment and Supplies

(Continued from Page 16)

need no thinning and have long shelf life. The liquids have been approved by a number of Graphic Arts organizations. Circle No. 266 on Reader Service Card.

Pre-determined Counter

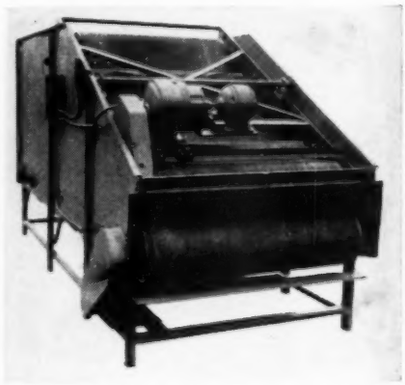
Tally 1000 pre-determined counter provides accurate, positive counting for such operations as packaging, batching, cutting of specific lengths,



etc., reports Hobson Miller Machinery Corp. Unit may be used to control motors, heavy duty solenoids, relays, conveyors, filling machines, presses, valves, markers, and many other devices. It can be started by photo-electric control, micro-switch, impact switch, limit switch, pressure switch, flow meter, or any type of single pole, single throw switching device. Included in features are: Counting rate up to 450 per min., automatic and instantaneous recycling to zero position after each completed count, and count selectivity from 1 to 1000. Circle No. 272 on Reader Service Card.

Cyclomatic Box Crusher

A cyclomatic box crusher designed to flatten upright boxes for easy handling and disposition has been developed by the Balemaster Division,

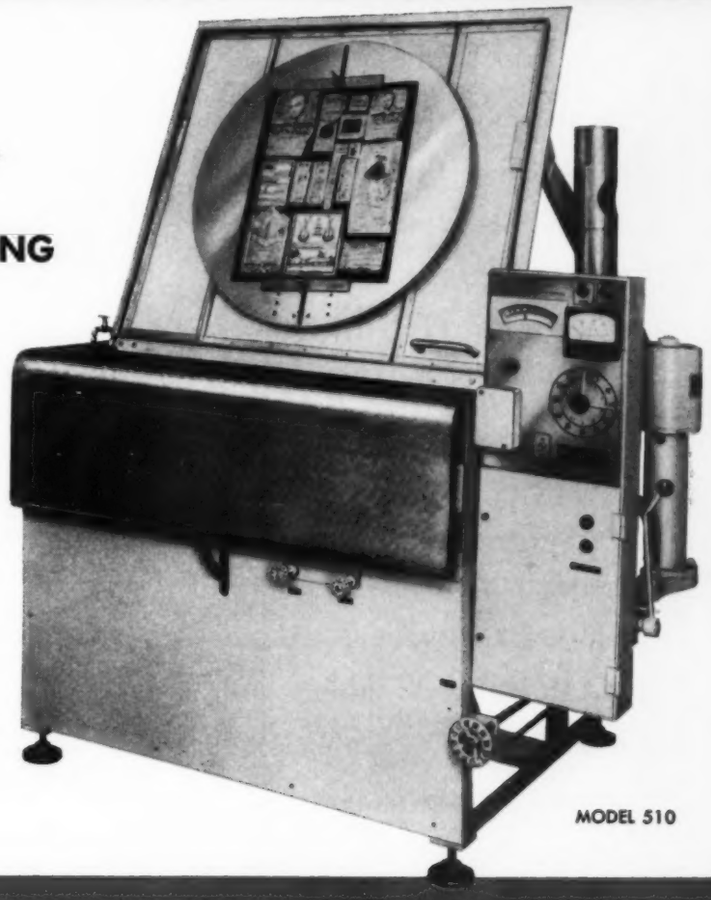


East Chicago Machine Tool Corp. Unit is furnished with two conveyors, one located over the other, and both operate in the same direction. Top conveyor belt is operated at a 25 deg. angle, the lower belt horizontally. The two belts meet

(*Continued on Page* 22)

NEW . . .

DOW-CHEMCO POWDERLESS ETCHING MACHINE



ORIGINAL MANUFACTURER
of powderless etching machines under license of the Dow Chemical Company.

MODEL 510

For Powderless Etching of Zinc and Magnesium Line, Halftone and Combination Engravings

Chemco's improved powderless etching machine incorporates many new features developed as a result of manufacturing and servicing nearly 200 of these machines. The new slip-proof, geared belt drive keeps the six full-length paddles turning in proper synchronization. This action, combined with Chemco's unique reciprocating head motion, assures uniform etching of every plate. Other features include a new leak-proof, service-free pump, all stainless steel construction of safety turn plate holder, paddles and etching tank and a lever-operated paddle speed changer. All operating controls are located in a convenient box on the right where they are easy to see and use.

In the Chemco powderless etching machine the refrigerating unit, warranted by Carrier, is located compactly within the machine. As a result the complete etcher occupies less than 28 sq. ft. and is far easier and more economical to install.

Write for complete information. Ask for a demonstration.

chemco

For more than 34 years Chemco has developed and manufactured products for the Graphic Arts Industry. We have concentrated on producing the finest possible film, chemicals, cameras and equipment. These products are sold and serviced through our own branch offices by experienced technical specialists. That's why we can say "If it's Chemco, it's best for platemaking".

CHEMCO PHOTOPRODUCTS CO., INC.

Main Office and Plant—Glen Cove, N. Y.

Atlanta Boston Chicago Dallas
Detroit New Orleans New York

For More Information Circle 40 on Reader Service Card

The Hurletron new DC Press Drive is the greatest advancement in newspaper, publication and rotogravure press drives in over 10 years. The Hurletron Press Drive represents the latest developments in contactless industrial control and tubeless power conversion, and presents all the advantages of existing AC and DC drives. At the same time, the objectionable and limiting features of present day systems are eliminated because of important new developments exclusive with Hurletron. Truly modular and compact, the Hurletron Press Drive provides a trouble-free power supply. Superior features and latest designs are used in all the motors and the control components. Write Electric Eye Equipment Co., Danville, Illinois . . . find out why the Hurletron DC Press Drive can do the job you want it to do, more efficiently, and at lower cost.

The Advantages o

DC Drives with t

Eliminated, Plus I

Features with the N

Maintenance Free H

PRESS DRIVE

For More Information Circle 232 on Reader Service Card

# of Both AC and

the Disadvantages

Important New

New, Automatic,

HURLETRON

write today for full particulars

Electric Eye Equipment Company

1938 E. Fairchild St. Danville, Illinois

the HURLETRON PRESS DRIVE Offers These Advantages

- Waterless
- Contactless
- Tubeless
- Trouble Free
- Stepless
- Gearless
- Stationary Components
- Simple
- Efficient
- Stable
- Compact
- Easy to Add On
- Reliable
- No Special Control Ventilation
- Rugged
- No Cost Penalty for 2/3 Speed
- Low Cost, Easy Installation
- Minimum Size Control

8 OUT OF 10 DAILIES

ORDER FROM EASTERN

The name EASTERN has become a byword in the composing rooms, stereotype departments, press rooms and photoengraving departments of the nation's finest newspapers.

Men who know and work with newspaper printing supplies and equipment in every category, rely on EASTERN for quick, dependable service in filling and delivering their orders.

The EASTERN Catalog 20 illustrates and describes over five hundred items to meet practically every production need. It's the most handy reference and complete source of supply in the industry. It pays to keep it at your fingertips!

MAKE YOUR NEXT ORDER EASTERN!

ENS EASTERN FOR ECONOMY

EASTERN NEWSPAPER SUPPLY, INC.

96-03 NORTHERN BLVD., CORONA 68, NEW YORK

For More Information Circle 55 on Reader Service Card

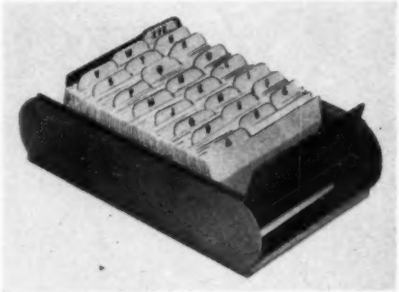
Equipment and Supplies

(Continued from Page 18)

at an end point and boxes are crushed automatically. Crusher is all steel welded and reinforced. Belts used are of three ply composition said to be resistant to tear and abrasion. Each conveyor is powered by its own 1 h.p. electric motor. Unit is made in three sizes, 36 in. wide feed opening, 48 in. wide feed opening, and 60 in. wide feed opening. Circle No. 253 on Reader Service Card.

File for Business Cards

A convenient business card file with alphabetical index guides has been introduced by Helen Hahn Co.

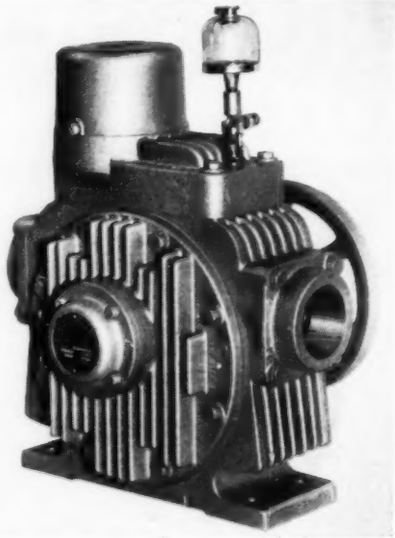


Called Card Caddy, file is adjustable and holds 3½ in. by 2 in. cards. It is recommended for filing personal directory, mailing lists, inventory, professional and engineering data, reminders, library index, etc. Card Caddy is made of polished aluminum in antique gold and black finish. Two models are available, Jr. Model holds 750 cards and Sr. Model 1000 cards. Circle No. 265 on Reader Service Card.

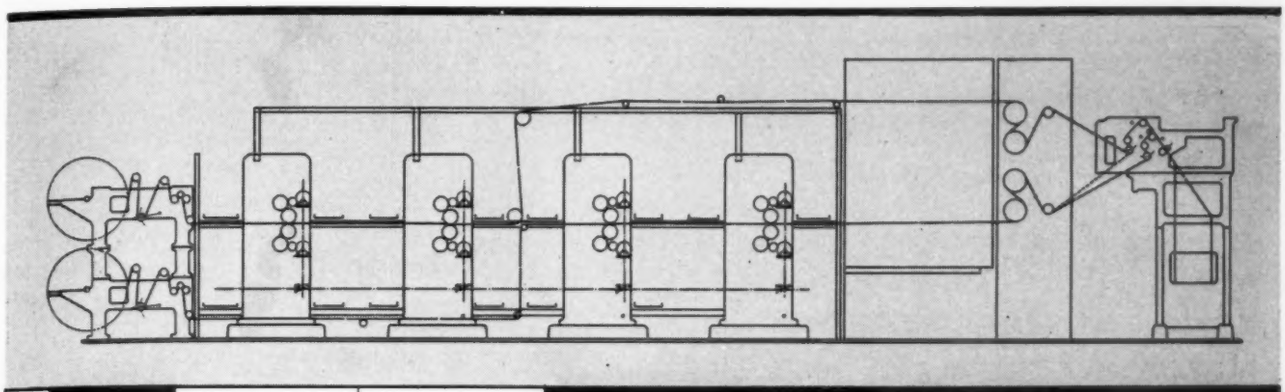
Air Cooled Compressors

Waukee Engineering Co., Inc. reports a new line of air cooled rotary vane compressors in sizes from 400 c.f.h. to 6000 c.f.h. at pressures from 1 to 3 p.s.i. Compressors are equipped with a built in automatic by-pass regulator which maintains pre-set delivery pressure at varying outputs.

(*Continued on Page* 24)



With the ATF 22¾ x 35 Publication Press you can handle all these color combinations and signature sizes



		number of webs	colors on each side of web	Number of folded pages			
				Newspaper, maximum page size 17½ x 22¾	Tabloid, 11⅜ x 13 to 17½	Magazine Signature, 6½ to 8¾ x 11⅜ untrimmed	Magazine Signature, 5-11/16 x 17½ untrimmed
1 UNIT		1	1	4	8	16	16
2 UNITS		1	2	4	8	16	16
		2	1	8	16	32	32
3 UNITS		1	3	4	8	16	16
		1	1	8	16	32	32
		1	2				
		3	1	12	24	48*	48
4 UNITS		1	4	4	8	16	16
		2	2	8	16	32	32
		2	1	12	24	48*	48
		1	2				
		4	1	16	32	–	–

*Signatures of over 32 pages are possible but weight of stock would be the determining factor.

Along with extreme flexibility, this ATF Publication Press gives you special features that spell out high production on a variety of jobs: newspapers, magazines, catalogs, books.

- Grouped controls for ink form rollers, ink ductors, and water dampeners.
- Independent upper and lower unit register controls for side and running way adjustments.
- Printing units and roll stands are gear driven, eliminating old-style chains.
- Upper and lower plates can be changed simultaneously in less than five minutes without breaking web.
- Both full width cross perforation and slot vertical perforation to eliminate corner wrinkling in folding operation.
- Speed up to 20,000 cylinder revolutions per hour for both press and folder. (Reduced speed required for delivering right angle and chopper folded signatures.)

Get the facts on the economics of web printing. Write for ATF's Web-Fed vs. Sheet-Fed Booklet—a comparison of web offset printing costs with sheet-fed costs (letterpress and offset).

ATF

American Type Founders

Web Division, 200 Elmora Avenue, Elizabeth, N. J.

Better, more profitable printing . . .
from the most complete line of equipment

For More Information Circle 10 on Reader Service Card

Equipment and Supplies

(Continued from Page 22)

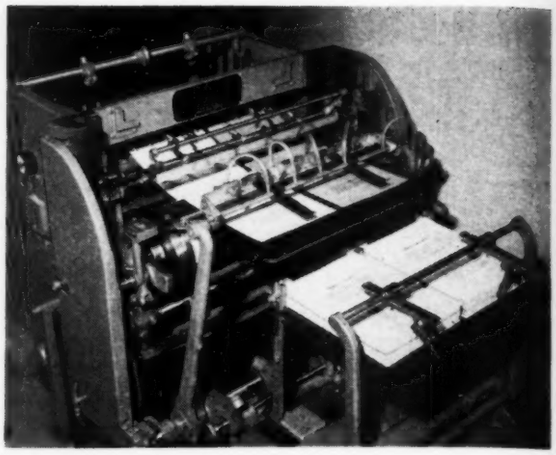
Regulator is in a closed circuit of compressor so that when output is turned down, flow of compressor is by-passed to input side. This enables output to be varied from 100% to any increment. Units are gas tight for handling mixtures of gas and air. Construction of units is said to be extremely simple. Rotor, which holds six plastic vanes, is supported on both ends by sealed silicone lubricated ball bearings which require no further lubrication. Vanes sliding in and out of rotor slots are only moving parts other than the rotor. Compressors can be driven by standard V-belt drive with a final driven speed of 750 r.p.m. to 1100 r.p.m., depending on size of compressor and amount of pressure. Standard 1750 r.p.m. motor can be used. Circle No. 250 on Reader Service Card.

Vinyl Plastisol Plate Compounds

Dennis Chemical Co. has introduced a new series of Denflex Vinyl Plastisol printing plate compounds. Five different durometers in various colors can be obtained. Included in characteristics are good molding qualities; sharp, clear details (including halftones); withstand many impressions, and complete release of inks, with reduction of ink consumption and wash up time. Compounds are also said to be resistant to solvent action of printing inks, resulting in little deterioration with continuous usage. Circle No. 256 on Reader Card.

Two-up Attachment For Miehle Vertical Press

—Miehle Company, Div. Miehle-Goss-Dexter, Inc., announces a new two-up attachment is now available for the Miehle Vertical. It is said attachment enables both sheets to be registered positively. A range of sheet sizes from 3½ in. by 5½ in. to 9 in. by 12 in. can be run two up, and if sheets are misfed, the press will kick off impression. Sponsor claims quick changeover time. Pictured is a Miehle V-50 Vertical equipped with attachment. Circle No. 259 on Reader Service Card.



Fortune Bold Italic

Bauer Alphabets, Inc. reports addition of Fortune bold italic to its existing Roman weights of light, bold and extrabold. At present the new face is available in 30 pt., 36 pt., and 42 pt., with 16 pt., 18 pt. and 24 pt. sizes to be added soon. Eventual size range will be from 8 pt. to 60 pt. A specimen sheet of 30 pt., 36 pt., and 42 pt. Fortune bold italic is available. Circle No. 274 on Reader Service Card.

FORTUNE BOLD Italic

Anti-jam Device for Knife Folders

ATF-Camco knife folders from 32 in. by 42 in. to 52 in. by 76 in. may now be equipped with an anti-jam device. Device is used to stop machine if sheets do not reach stop gauges in perfect register. Circle No. 271 on Reader Service Card.

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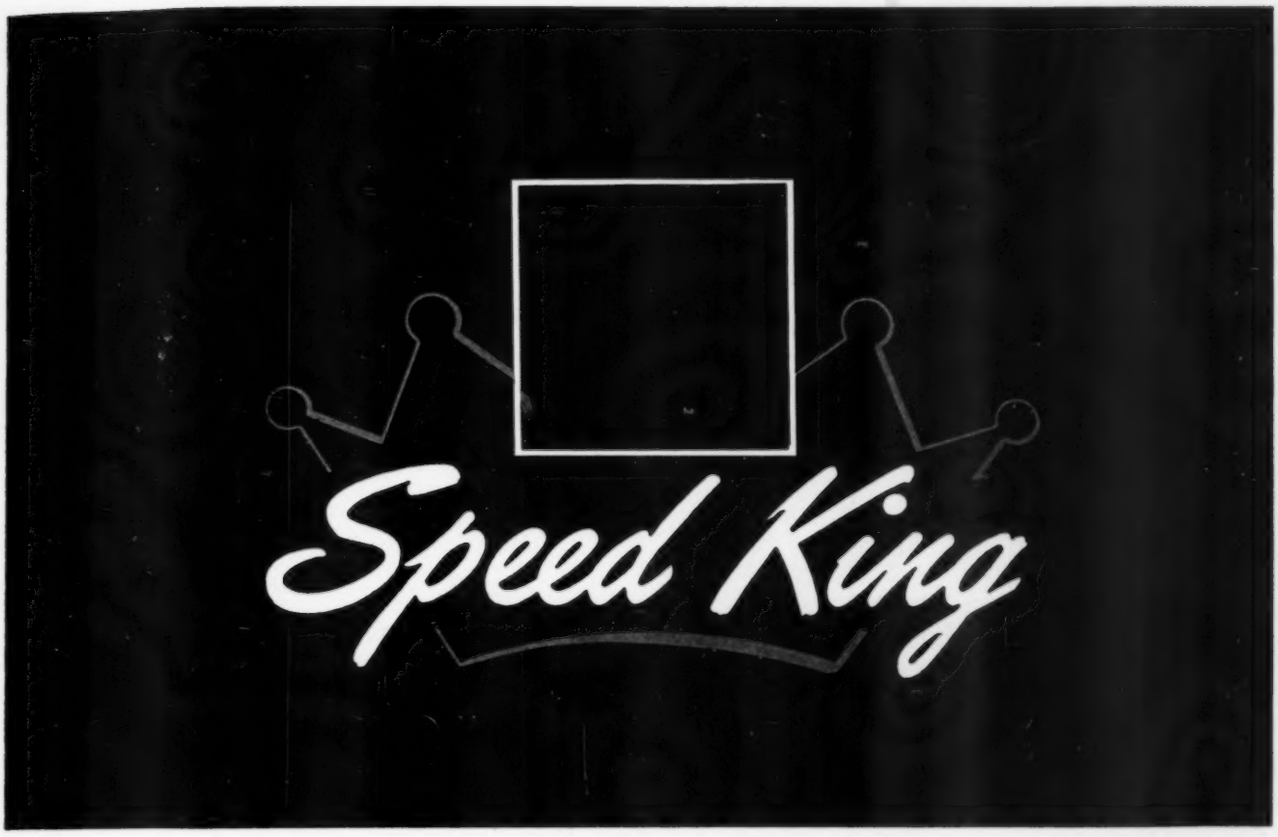

They set in a SPLIT SECOND!

91	Job Black for absorbent stocks. Can be left on press several days.
92	Regular Job Press Body Black. No drier, can be left on press overnight.
93	Halftone Cylinder Black. No drier, can be left on press overnight.
94	Halftone Cylinder Black. Contains drier, *cannot* be left on press overnight.
95	Halftone Cylinder Press Black. Contains drier and compound for added rub and scratch resistance. *Cannot* be left on press overnight.
47	Offset Halftone Black, most popular. Contains drier, and *cannot* be left on press overnight.

IPI Speed King Blacks are newly improved packaged inks. There are six different blacks for different specific uses: A job black for absorbent stocks, a regular job press body black, three halftone cylinder press blacks and an offset halftone black. Although these blacks vary somewhat in degree of characteristics, in general they offer these advantages:

1. Split-second setting
2. Ultra fast drying
3. Improved press stability
4. Less dryback—almost as bright dry as wet (on coated stock)
5. High finish on coated stocks and brilliant finish on enamel, *Kromkote*, *Lusterkote* and C1S label papers
6. Print sharp and clean

If you have not yet tried Speed King blacks, contact your IPI salesman. He will be glad to arrange a trial run.

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Man in search of resolution

The search for better quality and better resolution is never ending for critical workers. That's why so many prefer the brilliant dot formation or clean line rendition of Ansco's Reprolith line of films.

Ansco's Reprolith Films are capable of building rich, dense, blacks while retaining crystal clear whites. This superior contrast characteristic means better results in both line and halftone work.

And, there's no doubt that when Reprolith Films are processed in Reprodol Developer and fixed in Ansco Acid Fixer with Hardener you'll enjoy real working advantages. Ansco, Binghamton, New York. A Division of General Aniline & Film Corporation.

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Reprolith Type Films

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Really up-to-date rollers and blankets make a world of difference in the kind of results you get with your equipment.

Rapid Roller maintains a permanent research program for the constant improvement of Mercury rollers and blankets. As a result, these accessories enable you to get "new press" performance from older machines, and to get the most out of the latest models. These rollers and blankets are built to closer tolerances and are capable of withstanding greater speeds and stresses than are required by any equipment yet on the market. They are actually *ahead* of their time!

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For More Information Circle 148 on Reader Service Card

Literature

Circle Numbers on Reply Postcard—It's Easier and Quicker

Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please circle the numbers on the Reader Service Card in this issue for the bulletins you wish to receive. Drop the self-addressed card in the mail. *Printing Equipment Engineer* will forward your request.

Composing Room

NUMBERING MACHINES

Ameurope, Incorporated has published a catalog descriptive of its line of numbering machines. All machines are obtainable with five and six wheels, Gothic or Roman figures, and forward or backward movement. Machines with more than six wheels can be made to order. The company also supplies special types of numbering machines with figures from ⅛ in. to 1½ in. Circle No. 330 on Reader Service Card.

ALIGN-A-MAT

Literature regarding the Fisk Align-A-Mat is available. Device is used to restore worn out mats to factory standards. Circle No. 335 on Reader Service Card.

INTERTYPE QUADDER

An eight page booklet regarding the Intertype Dual Duty quadder is available from Intertype Company, Div. Harris-Intertype Corp. Detailed information and illustrations of this new quadding and centering device are included. Circle No. 309 on Reader Service Card.

AMSCO CHASES

Amsco steel and aluminum chases are described in a catalog released by American Steel Chase Co. All Amsco chases are said to be square and true because they are patterned from a template or blue print. Circle No. 319 on Reader Service Card.

VANDERCOOK EQUIPMENT

Vandercook pre-press equipment is listed in a catalog released by Vandercook & Sons, Inc. Descriptions of test presses, full page proof presses, electric galley proof presses, register punch, makeup gauge, and other Vandercook equipment are included. Circle No. 320 on Reader Service Card.

POWER MITERER

A catalog descriptive of the Rouse power miterer is available from H. B. Rouse & Co. Machine is claimed to enable 800 miters in 45 min. Circle No. 322 on Reader Service Card.

HAMMOND GLIDER

Trim-O-Saw Bulletin 958 regarding the Hammond G-100 Glider has been published by Hammond Machinery Builders, Inc. Included in Glider's features are an all purpose saw guard, chip and waste disposal, micrometer gauge. Circle No. 314 on Reader Service Card.

KEMP REMELT POTS

Kemp remelt pots with automatic metal loader are described in Bulletin 1E-9 offered by C. M. Kemp Mfg. Co. Kemp's immersion heating principle, application of heat from inside the pot, is said to enable even temperature distribution and cut dross formation. Circle No. 333 on Reader Service Card.

Platemaking

TRI-COLOR CAMERAS

A six page process color folder, descriptive of the new series of Robertson Overhead Tri-Color cameras is available from Robertson Photo-Mechanix, Inc. Illustrations and descriptions of various models and accessories available with the 31 in., 41 in., and 48 in. cameras are included. Complete specifications covering sizes, ranges, weights and dimensions are also listed. Circle No. 326 on Reader Service Card.

MAGNESIUM BASE

Monomelt Company, Inc. has published a bulletin regarding its magnesium base, available in all heights and sizes. Base is precision finished to 0.001 in. height. Circle No. 315 on Reader Service Card.

MAGPLATE FOLDER

A descriptive folder on Magplate, a magnesium metal for line etching, halftones and combinations has been prepared by Magplate Division, Brooks & Perkins, Inc. Circle No. 316 on Reader Service Card.

ESSAR INTEGRATOR

Literature has been prepared by Unitronics, Incorporated to describe the Essar integrator. Device is said to compensate for light variations and assure good exposures. It meters light and monitors color temperature. Circle No. 334 on Reader Service Card.

PLATEMAKING EQUIPMENT

Printing Plate Supply Co. has published a six page folder listing its platemaking equipment and supplies. Two illustrated bulletins, one regarding the firm's curved finishing tools and the other descriptive of its lightweight aluminum plate base, are also available. Circle No. 336 on Reader Service Card.

Pressroom

DOYLE BULLETIN

Doyle sheet cleaners are discussed in a bulletin available from J. E. Doyle Co. Cleaners are said to enable full production printing without stops for unnecessary washups. Circle No. 317 on Reader Service Card.

VERNER MULTIPRESS

B. Verner & Co., Inc. is offering literature concerning its Multipress for imprinting, envelope printing and specialty printing. Circle No. 318 on Reader Service Card.

SCOTT PRESSES

Literature is available from Walter Scott & Co. regarding Scott presses. Similar high speed black and white units, equipped with color cylinders for ROP color, can be obtained in any number or combination of units. Circle No. 331 on Reader Service Card.

STEEL FLOOR PLATE

A. W. Algrip's abrasive rolled steel floor plate is the subject of Booklet AL-E30 issued by Alan Wood Steel Co. Abrasive floor plate is recommended for safe footing around presses or wherever slipping hazards exist in a plant. Circle No. 332 on Reader Service Card.

ATF CHIEF 24 PRESS

A 12 page folder regarding features of ATF Chief 24, Model 1200 offset press, has been prepared by American Type Founders Co. Handling sheets up to 18 in. by 24½ in., press can be run on 8½ in. by 11 in. jobs four up, with bleed on four sides. Press can be used to print 9 in. by 12 in. jobs four up on stock up to 70 lbs., and 6 in. by 9 in. jobs eight up on stock to 70 lbs. Illustrations are included in folder. Circle No. 329 on Reader Service Card.

DAVIDSON DUAL-LITH

Davidson Corporation has available a technical bulletin regarding its Dual-Lith press, which enables both letterpress and offset reproduction. Machine is equipped with Davidson's two cylinder principle, incorporating a plate impression cylinder twice the diameter of the blanket cylinder. Use of relief plates and type, including rubber plates, curved electros, standard Linotype slugs and T shaped type are explained. Suggested applications for letterpress reproduction and imprinting are included. Circle No. 324 on Reader Service Card.

AUTOMATIC CYLINDER PRESS

Original Heidelberg is offering an eight page folder descriptive of its new 15 in. by 20½ in. automatic press. Folder was printed on a 15 in. by 20½ in. sheet and was run off on the press. It is printed in four colors, process on one side, and both sides were printed at 5000 i.p.h. Folder is an attractive sample of the type of work that can be done. Features and specifications are also given. Circle No. 313 on Reader Service Card.

PAASCHE CATALOG

Paasche Airbrush Co., Div. Cline Electric Mfg. Co., announced its new two color, illustrated catalog, descriptive of Paasche ink offset prevention equipment. Catalog 8 is said to contain a comprehensive coverage of all offset prevention units to presses available from any manufacturer. Circle No. 307 on Reader Service Card.

Miscellaneous

LETTERHEAD DESIGN KIT

Ready to reproduce artwork which can be used to design illustrated letterheads is offered by Byron Weston Co. in the Weston Bond Letterhead Design Kit. Planned to aid producers of low budget or short run letterhead

jobs, portfolio includes nearly 100 illustrations, ornaments and decorative rules and devices. Artwork on high gloss coated paper can be used as reproduction copy to make line plates or incorporated in the pasteup for lithographic reproduction. Weston Bond samples are included in kit. Circle No. 310 on Reader Service Card.

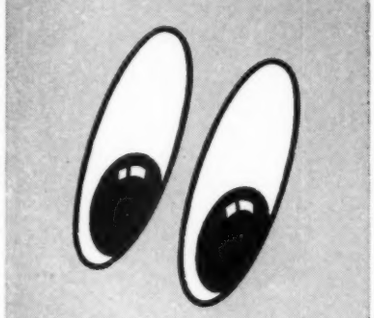
MACBETH BULLETIN

Macbeth Daylighting Corp. is offering a bulletin regarding its industrial skylight, Model BBX-826, with color matching booth. Unit is said to simulate north sky daylight and horizon sunlight. Specifications are included. Circle No. 306 on Reader Service Card.

(Continued on Page 72)

TAKE A CLOSE LOOK...

at a Hantscho ROLL TO FOLD LITHO NEWSPAPER PRESS



2-UNIT 22¾ x 36 OFF-SET PRESS WITH FOLDER

Here's press equipment that any fast-growing daily newspaper can use profitably. It not only provides greatly increased production without increasing number of man-hours, but the initial installation cost is LOW! *We invite you to check these statements.*

A two-unit perfecting web press will lithograph two colors on each side of a web and deliver a four page newspaper, an 8 page tabloid or 16 page maximum 9 x 11⅜ untrimmed. Or, running two webs, will lithograph one color on each side and will deliver an 8 page newspaper, a 16 page tabloid or a 32 page maximum 9 x 11⅜ signature. Additional printing units can also be added at any time to meet future expansion problems.

Added advantages are improved over-all appearance . . . much finer screen half tone reproduction . . . spot and *ROP color* as desired . . . fine register . . . possible use of cold type composition . . . and *more* economical production because *more* papers are produced within the same time.

2-UNIT 22¾ x 36 OFFSET PRESS WITH DRYER AND FOLDER

Hantscho Roll Fed Offset Presses of this and other sizes are being used by commercial lithographers for the printing of magazines, inserts, charts, books, manuals, etc. Send for descriptive literature.

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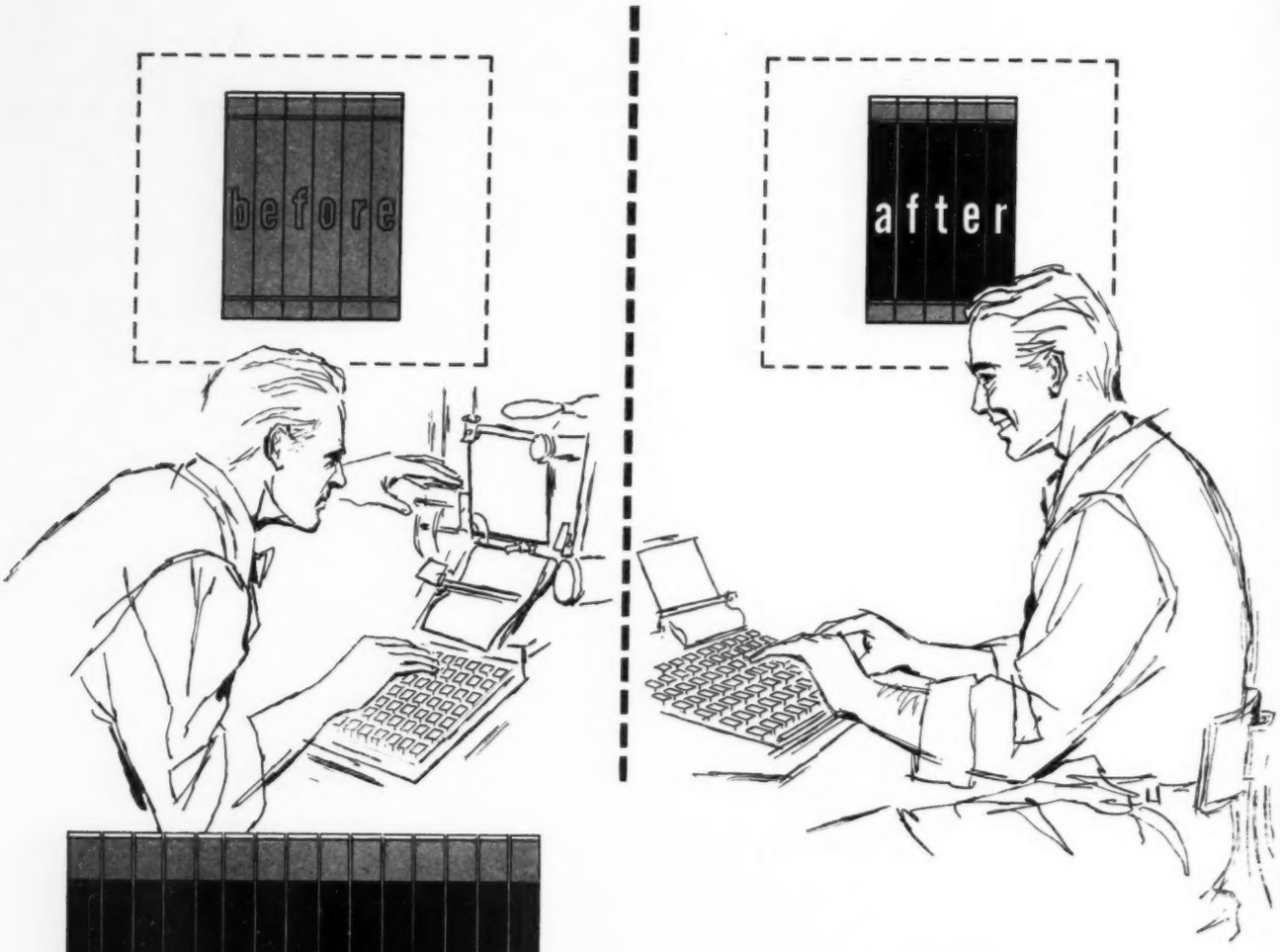

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When Matrix Contrast Service takes over the maintenance of your black-and-white and colored matrix reference marks, the machine operators can throw away their aspirin and bifocals.

Instead of dreading "railroaded" news, your editors can be confident that the type will be set more accu*rately*, as well as quickly. And your readers will be pleasantly surprised by the reduction in "typos".

Actual on-the-job tests prove that Matrix Contrast Service cuts mechanical errors in "railroaded" copy by as much as 50%! This is not surprising when you stop to think that one wrong line can make it necessary to reset a complete paragraph.

Even on routine typesetting, *legible* reference marks make a big difference. To give you an example . . . one linecaster in a plant that had just contracted for Matrix Contrast Service set 3300 lines of *legal* advertising, casting four slugs from each line, and bet the foreman that he would have less than five errors! (P.S. He won the bet — having made only three errors!)

If you would like to cut down on machine errors and lost production time in your shop, why not check with us? We would be glad to give you the name of a newspaper or printing plant in your area using Matrix Contrast Service . . . and you can see for yourself how it improves operator efficiency and morale.

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For More Information Circle 114 on Reader Service Card

PRINTING
EQUIPMENT
Engineer
February 1958

Offset *Platemaking*

Why various kinds of plates are used; why plates are grained; general discussion on making offset printing plates

By ADAM HENRI REISER*
**Eastern Editor*

There's much fun in growing up but there's also some sorrow. Going back over your childhood there's a tendency to overlook the sorrow, remembering only the joys.

So it is with industrial experience. Remember the joy of watching an eight color job develop on the press sheet as each succeeding color would make the job take shape? Forgotten are the unpleasant memories caused by the difference between the original and the printed sheet, differences imposed by the limitations of artists, provers, transferrers and pressmen of those years.

Progress in lithography has changed much of this. Improvements in methods and machinery have enhanced lithography's product so it not only compares favorably with other forms of reproduction but excels in many instances.

What would you indicate as the most important progressive change in offset-lithography? Would you lay the progress to better inks, papers, plates, color separations, films, presses, or other equipment?

Yes, it would seem that all these factors played an important part. But wouldn't you also agree that without a good image or press-plate there would be no good reproduction? Years ago that image was produced on stone. Today metal plates are used.

Three Types of Plates

On this metal plate, the image may be located in any one of three planes—planographic, intaglio or relief. The depth or elevation of this image is slight as compared with the depth of the gravure or the height of the type high letterpress image.

In offset deepetch (intaglio) as well as in albumin (planographic), the image can be produced on a zinc or aluminum plate. The highetch (relief) image is confined to the zinc plate only, the metal being used in a much heavier gauge than that of the ordinary offset printing plate. This highetch image is used for specialty work

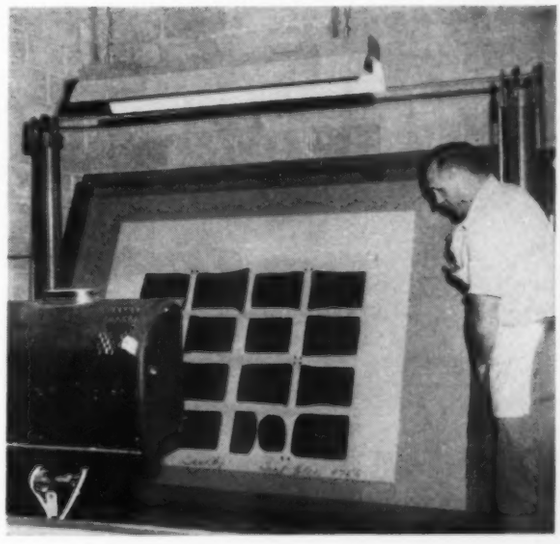


Fig. 1.—Stripped-up flat being printed to a printing plate in vacuum printing frame. Frank Nagele (Schneider Press, New York, N. Y.) checks contact before moving frame to upright position and turning on arc lamps for exposure.

Fig. 2. — Chase with masked subject being positioned in photocomposing machine prior to placing light hood in position on the chase for exposure. Photocomposing is used where register in multiple color printing is required or where numerous reproductions of a single copy are to be produced on a printing plate.

run on offset presses with no dampening apparatus operating.

Some bi-metal and tri-metal plates also find usage in lithography, having their proponents in the long run and high speed press field. These plates are run with the dampeners operating to keep the non-work areas clean. In passing it might be noted that some deepetch adherents advocate copperizing their plates in the belief that a more ink receptive image or base is provided in addition to extending the life of the image.

But by far the most commonly used image is the planographic or surface image. This type of plate and that bearing the deepetch image is also run on the offset press with the dampeners operating.

Why Are Different Images Used?

The kind of image used is determined by factors of length of run; quality of work desired; the method to be used in production; the type of inks and paper used on the run, and the use to which the final product is to be put.

The deepetch image, used in the better lithographic plants for their high quality work, provides the best all-round working image. It resists abrasion comparatively better, and, due to the positive image used, provides greater facility in the preparatory steps of stripping and platemaking.

Many proprietary solutions are marketed for deepetch and albumin coatings, complete with demonstrators and troubleshooters provided by the distributors. In addition to these features, one distributor works with a plate graining company which claims to supply grained plates tailormade for the solutions being marketed. However, the LTF formulae and recommended solutions work very well, tized plate is essentially ungrained, are easy to compound, and in the long run prove economical.

Small press operators are making use of the pre-sensitized plate for their short run work. These planographic or surface plates come to the lithographer coated and ready for exposure. One supplier provides a plate coated on two sides, enabling use of both sides of the plate. The pre-sensias are most of the bi-metal and tri-metal plates. All other offset plates except these have grained surfaces.

Function of Grain

The function of the grain on lithographic plates is two-fold. (1) Grain assists in holding the image on the plate and (2) Grain aids in retention of the hygroscopic coating in the non-work areas, keeping them clean.

Images on offset press-plates can be produced in one of four or more ways: (1) The work may be hand drawn directly on the metal; (2) The image may be projected to the plate, photographically; (3) Images may be contacted to the plate by means of the contact frame (Fig. 1); (4) Images may be photocomposed by means of a step-and-repeat machine or photocomposer (Fig. 2).

Combinations of the above are used at times. The latter two (3 and 4) methods may be used to produce multiple images from one negative or positive—photocomposing being used where register in multiple color printing is required, or where numerous reproductions of a single copy are produced on the printing plate.

Many Chemicals Used in Process

Up to this point, we've explored many kinds of printing plates without touching too much upon the method of creating or producing the image.

It must be evident that the many varieties of images mentioned, plus the metal selection, calls for different solutions in their proper production. It must also be evident by now, that the craftsmen responsible for their production must be versatile, thorough, alert —ever on the qui vive—performing all sorts of mental gymnastics to do first things first. Coupled with that, the factors of temperature and humidity changes provide more variables.

To insure proper adherence of any work on the metal following the graining operation, the surface is cleaned just prior to the use of the plate. Various acids may be used in the process, depending upon the metal and the preference of the operator. Acids like acetic, nitric, formic, hydrochloric, hydrofluoric have their advocates, some using them with alum.

Following the cleaning opera-

(*Continued on Page* 70)

Fig. 3.—Here a deepetch plate is being developed on a down draft etching table with exhaust system. Operators Sidney Grishman, plate foreman, and Frank Nagele, assistant superintendent, Schneider Press, New York, N. Y., keep deepetch developing solution moving over plate's surface with daubers.

Relighting the Composing Room

By ALONZO TAYLOR*

**Lighting Engineer, Boston Edison Co., Boston*

Principles involved in good lighting for composing rooms and other printing plant areas are not new. They were studied and expounded years ago. The seeing tasks involved with printing are among industry's most critical. The rule is: Use of large-area, low-brightness source of illumination. Under such illumination the compositor can inspect type faces by viewing them against the reflected image of the luminaire. Such a system alleviates the chief lighting problem: Specular reflection from metal forms, and low contrast between various parts of the metal.

Why, then, has it not been routine to install such a system in printing plants? Large-area, low-brightness units have for the most part been custom-made and cumbersome. To alleviate this problem was the objective in planning the lighting system for the plant of the Boston *Herald-Traveler*.

The entire design hinged on a method of securing the desired visual result with a practical low brightness source. The source had to be easy to install and maintain, have the long-life characteristics of an industrial fluorescent reflector, but must be suited to the specialized tasks encountered.

The system installed fully meets these requirements.

The New Lighting System

Essentially, the luminaire is made up of double parallel, industrial reflector units having approx. 8% upward component (see front cover illustrations). It is also designed with a shield of diffusing corrugated vinyl plastic across the bottom of the complete unit. The plastic diffuser is held by a frame suspended close to the bottom edges of the reflector.

Four parallel rows of 40 w. standard cool white fluorescent lamps are used (two lamps in each reflector). The two parallel reflector units are secured together side-by-side, with the plastic diffuser covering the entire width of the bottom. Corrugations in the plastic are normal to the axis of the lamps. Continuous rows of this combination are mounted 7 ft. above the floor, directly over the make-up tables, so that a reflection of the source (see illustration) is produced uniformly throughout the working area as viewed by the worker.

Measurements of Improvement

Certainly the requirements for simplicity and ease of maintenance have been met. As to meeting the lighting and seeing objectives, brightness readings indicate highly satisfactory results. Maintained average illumination is of the order of 115 foot-candles. Illumination from the old system varied from 40 to 60 foot-candles. Exposed lamp brightness under the old system was 1900 foot lamberts, compared with a brightness of some 500 foot-lamberts for the plastic shielding.

In taking the readings for reflected brightness, a 4-pica base slug was selected as the equivalent of the specularity of a type face. Under the old lighting the brightness varied greatly between the reflection of the bare lamp and the adjacent area. Under the old system, reflection of a lamp was 230 foot-lamberts, with the adjacent area on the work about 19 foot-lamberts. The brightness ratio between the streaks of reflected light of the lamp and the adjacent area was therefore 12 to 1.

A Uniform Brightness

Under the new system installed, the reflection of the plastic diffusing was only 95 foot-lamberts, with a ratio within the normal working area of 1 to 1. In other words, a uniform brightness is reflected throughout the seeing task. The area outside the reflection of the diffuser shows a brightness of 15 foot-lamberts, so that in the rare instances when this might come into view, the ratio is still only 6 to 1.

The significant point, however, is that with the large-area diffuser, the reflection brightness drops from 230 down to 95 foot-lamberts. At the same time the illumination level is more than doubled, uniformly, over the entire surface of the working area.

With this installation, harsh reflected glare has been minimized; a high level of illumination is diffused from one edge of the chase to the other; and the make-up man can not only distinguish the details of the work being done, but can do so without added eyestrain.

BEFORE: The effect of open reflector type lighting on a made up form in the composing room of the Boston *Herald-Traveler* before relighting of the department took place. Note bright streak across form which was eliminated by the new lighting system.

AFTER: The effect of lighting from plastic diffuser units on the same made up form as at left after relighting of the composing room of the Boston *Herald-Traveler* took place. Note uniformity of illumination across the form as compared to picture at left.

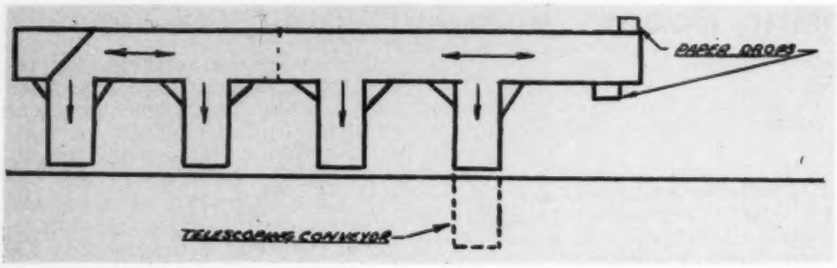


Fig. 4.—Overall plan view of the loading dock. The press reel room is also located on this level at Chicago *Daily News* South Side plant.

Automated Truck Loading Dock

By RONALD A. WHITE*

***Former Asst. Mechanical Supt., Chicago Daily News but now Mechanical Supt., Charlotte (N. C.) Observer.**

The Chicago *Daily News* South Side plant is equipped with modern presses and a different mailroom layout. A versatile, heavy duty loading dock contributes to the effectiveness of the production process. The dock design and construction were done by the Matthews Conveyor Co.

The conveyor dock unit (Figs. 2 and 4) is 44 ft. wide. The main belt section is made up of two separate belts, and there are four delivery chute belts at right angles to the main belt. Each short delivery chute belt transports its bundle to a short slide section and to an adjustable length (telescoping) roller section conveyor. The motion of the bundle from the end of the short or transfer belt to the truck is basically gravity induced.

The main center belts consist of two separately powered sections, the belts being separated between the second and third chutes. Each belt unit is separately and independently driven and each is reversible. The longer 26 ft. section is powered by a 3 h.p. constant speed motor in conjunction with a gear reduction unit permitting belt speed of approx. 150 ft. per min. The short 18 ft. section is powered by a 2 h.p. motor similarly connected to give a surface speed of 150 ft. per min.

Each of the perpendicular transfer section conveyors consists of 5½ ft. long belt sections and are powered by ¾ h.p. unit. The surface speed of these belts is about 150 ft. per min. The telescoping roller section conveyor is powered by a 1/3 h.p. unit. This power is used for positioning only.

The picture (Fig. 3) showing driver and position of the adjustable conveyor illustrates the convenience and safety of a power driven runout unit. The section is electrically braked and frictioned by a cable and drum unit. Fig. 3 also shows mounted on the side of the telescoping section a forward-reverse button box. (The box used in the picture is only a dummy mounted for photographic purposes. The actual control box is similarly located at the end but on the opposite side. The left side position was chosen by the drivers as being their preference). Control is limited to retracting and advancing the roller section into or out of the truck depending upon position of the load. (The driver has no control over deflectors for bundle delivery.)

Maximum travel of the telescoping section is 6 ft., sufficient for many different truck sizes. A mechanical safety stop is provided to prevent a complete runout.

The telescoping adjustment is also controllable from the dock by the dock operators. These stations are separated from the main control console for a more effective utilization of manpower. The dock runout control for No. 1 chute is to the left of the console group (Fig. 1). The other three dock operable controls are mounted at chute No. 2.

The console grouping (Fig. 1) consists of the button stations to control each of the main belts (the two three-button control boxes), the starter buttons for the perpendicular transfer belts (the four adjacent to main belt controls), and the control buttons for the operation of the deflectors off the main belt (the six stations mounted below). There are six deflectors mounted in such manner that the main belt can run either direction and bundles will be deflected to the desired chute. Delivery chute No. 4 is the exception as a permanent deflector is mounted across the belt. This deflector is easily removed, however, to allow for stacking at that end of the conveyor.

The deflectors are air operated, each by its own air piston and solenoid valves. The air line carries 60 p.s.i. for operation of the 12½ in. deflector stroke. Air power is supplied by the plant's own compressors.

Having covered the specifics on power and design above, discussion of operation of the dock in conjunction with the mailroom is now in order. In the mailroom diagram (Fig. 5) is shown the paper delivery tables feeding to short section powered conveyors. These conveyors feed the wire tying machines which are back to back and separated by drop chute openings. The chute feeding from the north tie machine feeds the dock conveyor from the west side and the south

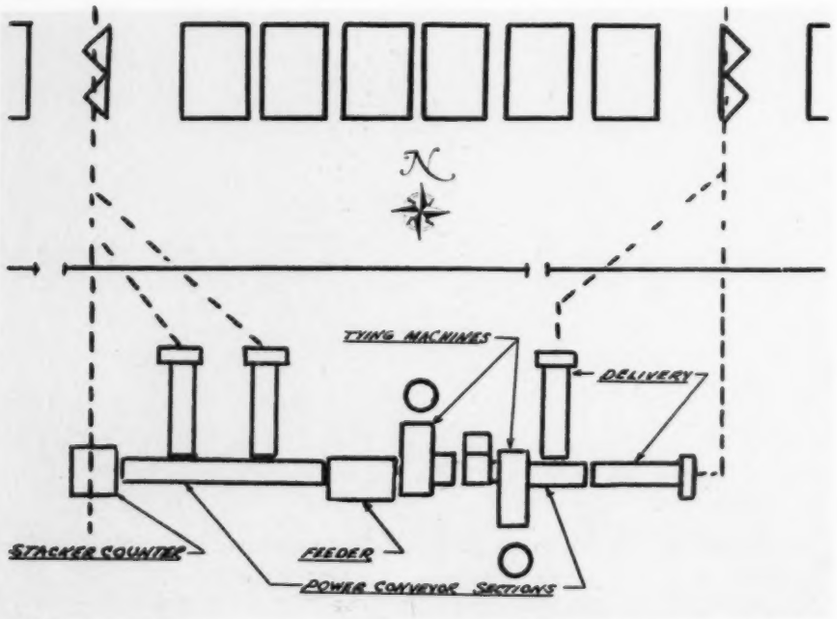


Fig. 5.—Overall view and layout of the mailroom section of the second floor at Chicago *Daily News* South Side plant.

drop chute feeds from the east and also south of the other chute.

The arrangement provides an advantage in handling when the presses are running separate products, which is often the case. The daily editions are usually handled in the north drop chute and in the south are handled the "parts".

It might be possible for bundles of both dailies and parts to run down the main belt together, and have the operator flipping deflectors for loading; but for ease of handling there has been devised a portable roller section to feed past the main belt and into a truck directly alongside the first delivery chute. As the supplements are usually carried by larger trucks with considerable capacity, the problems of loading are minimized in comparison to the daily. The daily papers then flow from the north drop chute to the main belt and are deflected to the waiting trucks.

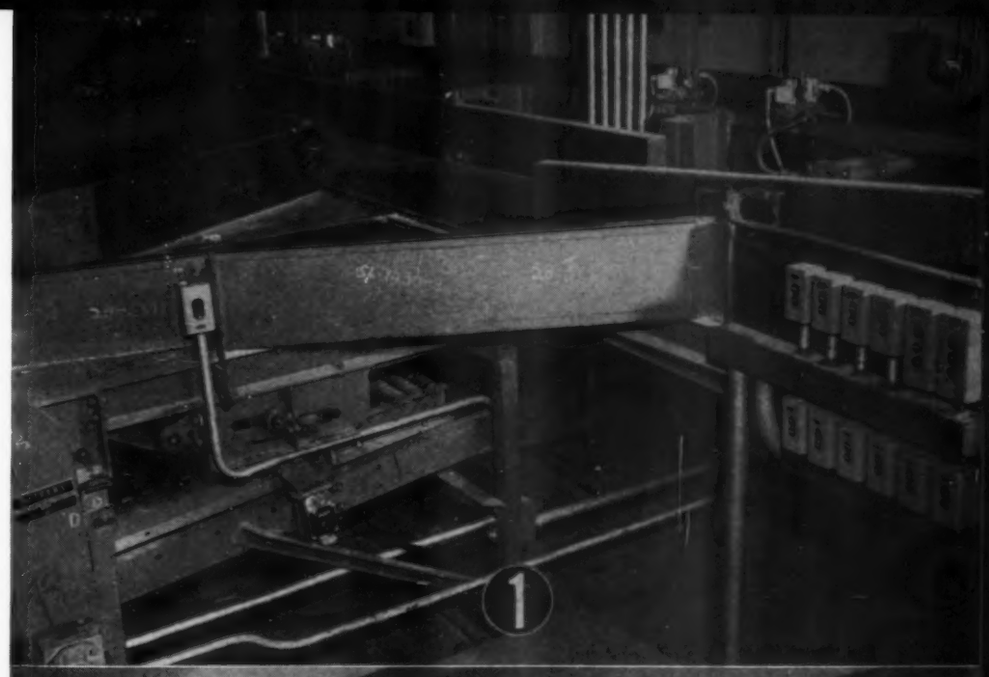
The distribution of the Chicago *Daily News* fom the South Side plant is done by a number of trucks with varying size loads. With two presses performing at 50,000 papers per hr., delivering bundles of 50s, the dock must have considerable versatility. It would not be too uncommon to have trucks waiting for loads of only a few hundred papers. With two presses delivering upwards from 800 papers per min. there is the problem of handling 32 bundles of 50s per min. over a sustained time. Some trucks of short loads will clear in a minute and the papers are delivered to the next truck when the load leaves or they are stored if necessary.

Automatic Operations Speed Handling of Newspapers

Fig. 1.—Shown here is the console grouping of controls for the delivery dock of the Chicago *Daily News* South Side plant. In the console grouping are buttons for operating both main belt sections, the four transfer belts, and the button controls for the deflectors. Single control box to the left on the side of the transfer chute is dock control for operation of the telescoping roller section. The telescoping section is seen in the fully retracted position below the control station. Also evident is a deflector in the open position.

Fig. 2.—This is an overall view of the platform dock at the Chicago *Daily News* South Side plant. Overall width of the conveyor system is 44 ft. Roller sections extending beyond the slide portion of the system are adjustable by the control button on the end and by a dock control. Main control center is mounted near chute No. 1 at the right.

Fig. 3.—A driver is demonstrating the convenience and safety of the power operated telescoping section. Ease of operation is evident for truck front or tailgate loading. The button shown is a dummy mounted for photographic purposes in order that the limit switch on the runout section could be indicated in connection with the button. The actual box is located at the end on the opposite side, this side being chosen by the drivers themselves.



R & E Council's Executive Committee

Pictured are members and guests of the Research and Engineering Council's Executive Committee who met in Chicago recently for its quarterly meeting. First row, from left to right: C. W. Brown, Enterprise Printing Co., representing National Editorial Assoc.; Guest Louis Durant, ANPA Research Institute; Dr. Marvin C. Rogers, Graphic Arts Consultant; Vice President Alan S. Holliday, Craftsmen, Inc.; Vice President Geo. H. Cornelius, jr., Cornelius Printing Co.; President Felton Colwell, Colwell Press, Inc.; Secretary C. L. Jewett, Minnesota Mining & Mfg. Co.; Treasurer, W. R. Spiller, Harris-Intertype Corp.; and Ben R. Preston, Crescent Engraving Co.

Second row, from left to right: Guest William Braasch, ANPA Research Institute; Dr. William C. Walker, West Virginia Pulp & Paper Co.; William Baumrucker, jr., Photon, Inc.; E. J. Triebe, Kingsport Press; C. L. MacKinnon, ANPA Research Institute; Arthur N. Knol, W. F. Hall Printing Co.; Louis Rossetto, Mergenthaler Linotype Co.; and R. O. Page, Courier-Citizen Co.

Third row, from left to right: Guests Don Warner and Robert Mather, both of ANPA Research Institute; Charles Edson, Kable Printing Co.; John H. Davis, jr., Judd & Detweiler, Inc.; J. Homer Winkler, Battelle Memorial Institute; A. A. Saul, Miller Printing Machinery Co.; John L. Kronenberg, S. D. Warren Co.; Dr. William H. Vinton, E. I. du Pont de Nemours & Co., Inc.

Fourth row, from left to right: J. Russell Parrish, Meredith Publishing Co.; Guest Philip Dunne, ANPA Research Institute; Lee Augustine, Printing Machinery Co.; C. M. Flint, Chas. T. Main, Inc.; Malcolm Frost, Book Manufacturers' Institute; Fred P. Hofferth, American Book Co.; G. L. Erikson, Braden Sutphin Ink Co., representing National Assoc. of Printing Ink Makers; Gilbert Stevens, Minnesota & Ontario Paper Co.; Paul Lyle, Western Printing & Litho Co.; and Wade E. Griswold, Lithographic Technical Foundation.

Research Notes

Named Battelle President—Dr. B. D. Thomas, scientist and research administrator, has been named to the presidency of Battelle Memorial Institute to succeed Dr. Clyde Williams, who recently retired. Announcement of the appointment was made by the Institute's Board of Trustees. Active head of Battelle since being named director a year ago, Thomas has been a member since 1934.

Executive Appointment—James K. Brown has been appointed vice president of research and development for Sam'l Bingham's Son Mfg. Co., it was announced by Kenneth Butler, vice president of sales. Brown has also been made a member of the company's executive committee. He is well known for his developmental work on printing rollers, having designed the Shamrock roller for offset, the Extron roller, and the new ROP color roller which carries heavier pigmented colored inks.

BROWN

Management Meeting on Research—The Amalgamated Lithographers of America are seeking a joint meeting with management on the subject of the recent convention proposal to establish a multimillion dollar fund to study technological developments affecting the lithographic industry, according to an announcement by George A. Canary, International president.

Canary stated that letter invitations suggesting an early 1958 meeting on research have been sent from his office to key lithographic management organizations including the Lithographers Natl. Assoc., Natl. Assoc. of Photo-Lithographers, Lithographic Technical Foundation and the lithographic division of Printing Industry of America.

"We do not have any preconceived plans", reports the labor leader, "but are of the opinion that any programs in the area of technological research should be jointly developed based upon the present and future needs of the entire industry".

Press-Stereo Management Seminars—The ANPA Research Institute has announced the schedule of press-stereo management seminars for 1958. The seminars are designed for management personnel by giving them a basic knowledge of rotary press and stereotype operations. Training materials are especially organized for the newspaper executive who has not had actual experience at the trades in question. Basic principles and fundamentals of design will be emphasized so that management can apply information to its present and future operations, regardless of size or type of equipment. The 1958 seminar schedule is as follows:

Hotel Manhattan, New York, N. Y., Jan. 27-31.

Hotel Statler, St. Louis, Mo., Feb. 17-21.

Hotel Manhattan, New York, N. Y., Mar. 10-14.

Hotel Drake, Chicago, Apr. 14-18.

Hotel Manhattan, New York, N. Y., May 5-9.

Hotel Sheraton Palace, San Francisco, Calif., June 9-13.

New York, N. Y., July 7-11, (hotel not given).

Chicago, July 28-Aug. 1.

New York, N. Y., Sept. 8-12.

Chicago, Oct. 6-10.

Trend is to Larger Units

By **ROBERT ROYDEN GREER,** *Printing Engineer*

The Graphic Arts industry is struggling for a more secure tomorrow. The competent executives are being weeded out from the poor ones in this intensive era of dog-eat-dog.

What defenses can be devised for more security in the printing industry? One trend is toward mergers of two or more small businesses into one larger organization that complement each other in some way. (If you can't fight 'em, join 'em).

Thus opponents are transformed into team partners, duplication of overhead is reduced and volume may be doubled. Greater economy in desirable planning and scheduling is obtained, along with higher efficiency factor for machine load. Joint talent for a better and smoother organization is attracted. Only the best equipment from each of the plants is retained. The surplus is disposed of to get more working capital.

Eventually, this modernization will allow desirable new equipment to be purchased and utilized that neither plant existing by itself could afford.

Mergers mean nothing unless both sides mutually benefit and are sincere in working toward the common good of all. Temperament, stability of purpose, emotional balance, honesty, and a background of suitable experience are paramount.

The merger must be properly set up with a one-year trial marriage. In this period no title to equipment is transferred. Each owner retains ownership to his own property until the trial marriage proves its merit. The plant production, however, is pooled on one floor, if possible, for most economical operation.

Nine times out of ten the marriage proves to be a constructive and successful advance upward out of the rut. The success of a merger means that the joint-owners will train themselves for a larger type of operation. One *must* is to join your trade association, and benefit by its services and training programs.

This means you can train to develop and utilize scientific management, learn all about ratio study as a great management tool and safeguard, soundly root yourself in estimating procedures, study management procedures, and possibly business administration, facts on insurance, sales techniques and promotion, good management-labor relations, handling of credits and many other advantages.

Devoting some of your spare time to study for administrative, sales, and technological improvement is a defensive safeguard toward management success.

Elevate your sights. In this way you will be headed toward new horizons.

●

Honorary Membership, the highest honor of the Research and Engineering Council of the Graphic Arts Industry, was awarded to Elliott Donnelley, R. R. Donnelley & Sons, at the Council's recent Executive Committee meeting in Chicago. Donnelley received the award because of his two years service as the Council's vice president and other contributions to its work. The framed certificate was presented to Donnelley, left, by Edward J. Triebe, right, Kingsport Press, who was the Council's president during Donnelley's activity.

Technical Advisory Committee of Gravure Research, Inc. met recently at the Hotel Governor Clinton in New York, N. Y. Representatives from the 38 member companies of the cooperative research organization of rotogravure printers, engravers and suppliers heard reports on latest developments in color correction techniques. GRI laboratory staff members also reported on research being conducted on web printing press operation. J. E. Hazel, rotogravure superintendent, New York (N. Y.) *News* is president of Gravure Research, Inc.

Lehigh Receives Grants—Two research grants to Lehigh University totalling $16,700 were announced recently by Dr. Harvey A. Neville, director of the university's Institute of Research. One grant of $13,100 has been made by the Corn Industries Research Foundation, Inc. for a study of the flow of starch. Dr. Albert C. Zettlemoyer, professor of chemistry, and Dr. Raymond R. Myers, research associate professor of chemistry, will direct this project. The research calls for the use of ultrasonic vibrations to investigate formations and flow characteristics of starches in paste form.

Forbes Elected to GRI—Forbes Lithograph Mfg. Co. has been elected to associate membership in Gravure Research, Inc., the research organization of gravure printers. The gravure operation of Forbes is in the packaging field. GRI membership is now at the highest level in the organization's 10 year history, comprising 38 printers, publishers, engravers and their suppliers.

Conclusion of a two-part series dealing with materials from which rubber and plastic plates are made, and materials researchers say are needed for greater use of

FLEXIBLE Printing Plates

Part II—New Materials and Future Prospects

By EDWARD H. OWEN*

***Associate Editor, Printing Equipment Engineer*

As explained in the preceding installment, the desire of industry executives to find a substitute material for making flexible printing plates launched us on a survey of the flexible plate field. We discussed the properties and applications of these plates, the advantages and disadvantages of each, and dealt some with the problems encountered in platemaking and plate use. In this final part, we will go into the need for a new material and review some of the more recent developments in the flexible plate line.

Flexible printing plate problems are the main interest of Rex Jones and Dr. Stephen Palinchak of Battelle Memorial Institute, Columbus, O. They concur with some close to this field that register is a problem with multicolor printing from flexible plates. Others take exception to this. They concede that register is a problem, as they point out it is in all printing processes, but insist commercially acceptable register can be and is being obtained all the time.

Despite existing shrinkage control methods for minimizing dimensional changes in both the matrix and the plate, extreme care is required to prepare a matching set of plates. The Battelle researchers said matrix materials available do not have the same degree of shrinkage in the two directions of the sheet. This can cause serious misregister if the matrices for a set of plates are not cut from the same direction of the sheet.

Warpage of the matrix causes trouble in the precision molding of flexible plates. Also, when the matrix is molded from a type form with low spaces, the areas of the matrix not receiving sufficient pressure often crack, resulting in sticking of the plate in the matrix. In short, an improved matrix material would be a definite benefit to flexible platemaking.

More on Variations

And speaking of shrinkage and warpage in matrix materials for rubber plates, A. R. Bradie, vice president, Mosstype Corporation, Waldwick, N. J., had this to say in a recent article appearing in *Paper, Film and Foil Converter*: "Matrix sheets will vary in moldability to a surprising degree. They will not always compress consistently and uniformly to the same thickness or 'floor.' There is some variation in the amount of shrinkage in both directions, although this is a factor the average plate user will not be too concerned about. Some matrix material will warp excessively, which may be due in part to variations in the thickness of surface resin applied by the manufacturer and in part to some variation in the resin-impregnated board which is its base.

Mosstype Corporation, Waldwick, N. J. flexible platemakers, maintains a laboratory for conducting specific tests on its products. The lab technician shown here is testing rubber for moldability.

"These same variations may also be responsible for the not infrequent blistering, popping and picking which occurs. Molding techniques must be adjusted to offset the variations."

The flexible platemaker and user can find considerable technical literature available to assist in overcoming some of his problems. Some of the companies which provide such literature are: Econo Products, Inc.; Mosstype Corporation, Porter & Dugas, Inc.; Ideal Roller & Mfg. Co. Inc.; The Monomelt Co., Inc.; Goodyear Tire & Rubber Co.; Lake Erie Engineering Corp.; Williamson and Co., Inc., and Wilsolite Corporation.

A Need for New Material

At this point in our investigation we remembered the statement made at the very beginning about the flexible plate field interested in finding a substitute material from which to make its product. This became the next point of inquiry. Jones and Palinchak wrote: "The most significant benefit to flexible plate printing would be development of a plate material having more resistance to a greater variety of solvents. This would increase the life of plates and permit much more latitude in the formulation of inks. If new solvents could be used, they would permit the use of a greater variety of resins in the inks to improve the inks

for special applications, and to formulate inks for better abrasion resistance and faster drying.

"It does not appear feasible to produce a single elastomeric formulation which would be resistant to all solvent systems. However, a concentrated research effort might result in synthetic materials specifically resistant to certain solvents thus permitting the use of plate material designed for specific types of ink formulations."

Limitations of Rubber

The limitations of rubber printing plates were also a concern of the Battelle scientists. They said: "We have often thought that the advantages of a highly resilient plate could be retained by using the soft rubber base with a very thin layer of a harder rubber on the surface. This might permit better printing of halftones and possibly the printing of finer screens. An investigation of special plate construction ideas of this sort could result in improved printing from flexible plates."

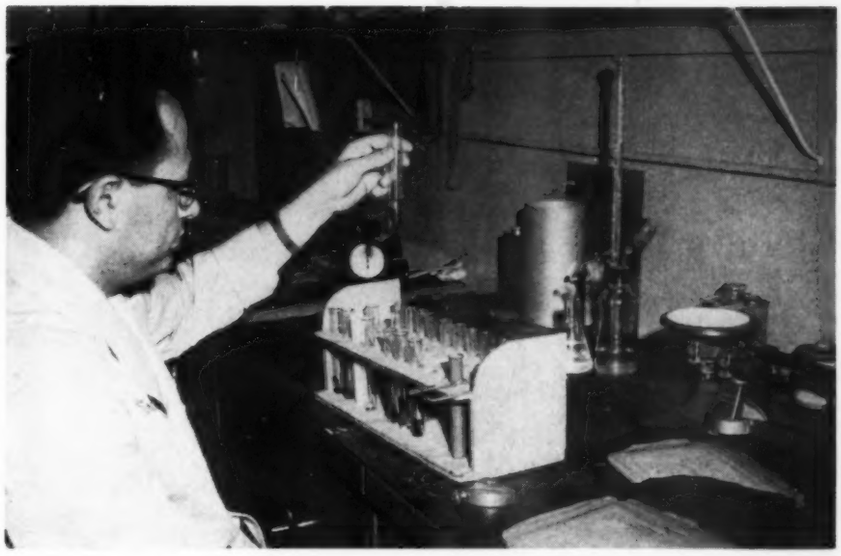
This seemed to keynote, though some four years removed, the work of a special committee on rubber and plastic plates formed by the Research and Engineering Council of the Graphic Arts Industry. In a report issued in early 1953, it was stated: "'In printing fine screen halftones, while it is possible to obtain all the detail of the engraving in molding the rubber plate, the dots tend to mushroom and a loss in tone gradation takes place in the print. Halftone screens up to 85 lines are commercially practical. Rubber plates cannot be routed satisfactorily, but non-printing areas can be removed by stripping the rubber away from metal and fabric-backed plates.

"Natural rubber compounds are usually limited in use to printing with flexographic printing inks. Synthetic rubber, Buna-N, type compounds are preferred in use with oil base inks. Both materials require storage at low temperatures (up to 40 deg. F.) in order to prevent air curing. Exposure to room temperatures or above for over 90 days tends to pre-cure the rubber compounds which makes the material unsatisfactory for further operations.

"Care must be used in the selection of inks and driers which can and do attack the flexible plate surfaces and reduce the life of a plate. Manganese and cobalt driers should be avoided. Lead driers are recommended."

New Plate Developments

Meanwhile, manufacturers and suppliers of flexible plate material have been working to meet the demands of the users and plate-



Variations in rubber compounds used for making flexible rubber plates may involve changes in durometer, surface qualities, abrasion resistance, etc. Shown here is a chemist making a laboratory test for solvent resistance of rubber designed for a specific job.

makers. Among some of the recent developments in the plastic plate line has been the work of Monomelt Co., Inc., on a flexible plastic material called NAFI. The trade name stands for National Automotive Fibres, Inc., the company which fabricates the material. According to H. P. Blodgett, Jr., Monomelt vice president, the plastic has promise of providing a flexible material which will offer all the advantages of rubber without some of its inherent deficiencies.

Large Companies Experimenting

A recent development reported by B. F. Goodrich Chemical Co. is a method of forming plates from plastisols made of Geon paste resin. These plastisols are fluid or putty-like materials that are applied to a female mold, covered by a sheet of impregnated fabric, and then fused under pressure. Satisfactory results are reported by the customer who originated this application, says Goodrich. No further details were available.

Goodrich also reports progress in the past six or eight months on stretch and shrink control in plate material. The company was not ready as yet to release its findings.

One announcement of significance, made last May by Du Pont, was that substantial progress had been made toward development of a presensitized, lightweight, flexible plastic relief printing plate. It was expected the plate would have potentially wide use in the letterpress field.

After exposure through a high contrast photographic negative and washing in a simple water solution, the Du Pont photopolymer printing plate is ready for use. The image is formed by a chemical change in the light sensitive plastic during the exposure. Unexposed areas are then washed out, leaving a relief of up to 0.040 in. The plate may be affixed to metal, synthetic resin or polymer base. Halftone and line work plates may be produced by the new method. It was expected commercial quantities of the material would be available during 1959.

There have been other plastic materials announced in the past year or so, such as The Niser Company's plastic powder for molding into flexible printing plates. Chief advantage of this material is that the powder can be molded in Bakelite, metal and other molds, and removed from the press without cooling. It is claimed the compound has good resistance to most oils, chemicals and solvents, good abrasion resistance and good resilience.

Another development was reported by Porter & Dugas, Inc., Chicago platemaking firm. It found "outstanding quality" in a rubber compound which heretofore had never been used for rubber plates. The compound has an extremely low modulus formation, compounded to give low permanent set and rapid recovery. P&D reports that plates made from this rubber provide clear, sharp prints with optimum solid capacity; halo is practically non-existent. Other platemaking firms report similar developments along this same general line.

A Trend to Rigid Plates?

Three plate developments of importance, which though they cannot be considered in the flexible plate line, nevertheless, should be mentioned in this review of plates made from plastics. These plates

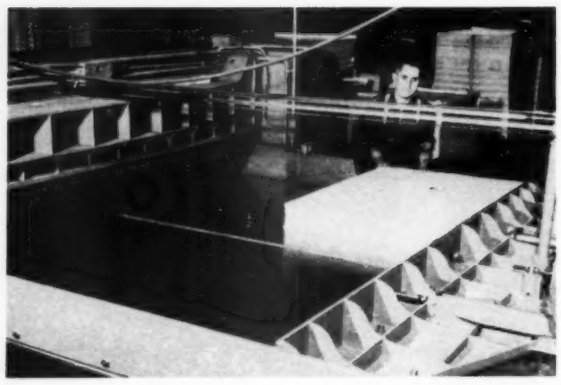
are all rigid plastic and may very well indicate the direction in which this field is headed.

Perhaps the most significant is the nylon letterpress plate currently being developed by Springdale Laboratories Div., Time Incorporated, Springdale, Conn. Details of this plate were revealed for the first time last May at the annual meeting of Technical Assoc. of the Graphic Arts (see *Printing Equipment Engineer,* June 1957, p. 57). Although the plate is still in the experimental stages, there is promise of important commercial applications. Experimentally, Springdale researchers have printed up to 300,000 impressions from the nylon plate at speeds up to 2000 f.p.m., without noticeable wear on the plate.

In processing the photosensitized nylon, light passes through the negative and fans out in the photosensitized nylon. In the halftone areas these illuminated sections intersect at a distance only a few thousandths beneath the surface to form an insoluble layer. In line or type areas where the image elements are farther apart the illuminated portions do not intersect until a much greater depth is reached. The soluble portions are removed from the surface with a developer which takes the place of developing and etching in normal engraving. An etch depth of 0.016 in. to 0.018 in. is reached in about 12 min. Finishing steps, such as drying, trimming and routing, follow.

At about the same time a letterpress printing plate, called Permatype, was announced by Western Newspaper Union (see *Printing Equipment Engineer,* May 1957, p. 27). Its inventor, Frank A. Freeman, says the molded plate is a combination of plastic materials, reacted and integrated under heat and heavy hydraulic pressure, into a printing plate having a very hard printing surface supported by a tough but resilient thermoplastic cushion. The Permatype plate is adhered, or bonded, to a solid saddle of precision, precurved magnesium for curved plates, and aluminum or magnesium for flat plates. Applications include printing of cartons, flexible films and foils.

The other plate is made from rigid Geon vinyl plastic sandwiched between sheets of aluminum. The process was originated by Printing Plate Supply Co., Chicago. To make the plate, a 0.020 in. thick sheet of rigid vinyl plastic, made from B. F. Goodrich Chemical Co.'s Geon high impact resin, is bonded to a perforated aluminum base. The printing plate is put on top of the plastic and the whole assembly is heated, and then placed in a cooling press at about 100 T. pressure. The excess plastic is forced into the holes in the aluminum backing sheet. It is claimed to be especially effective on high speed rotary printing presses.



Mill Trimmer With Closing Device—Shown in operation is the Seybold 100 in. heavy duty hydraulic mill trimmer recently installed at the Williamsburg, Pa. plant of West Virginia Pulp and Paper Co. A new feature of mill trimmer is a closing device built into rear table to close slot in which back gauge travels. Consisting of nylon chain connected to back gauge guide, closing device fills the slot as back gauge moves forward. Device enables back loading of trimmer without use of metal or cardboard sheet under the lead edge. It also facilitates swinging of the paper pile without slot interference. Air or mechanical rams can be used to side load the back table automatically. Table slot closing device is standard on all Seybold 65 in., 85 in., and 100 in. hydraulic cutter trimmers and is available as optional equipment on other models. Circle No. 277 on Reader Service Card.

Research Will Decide Progress

Finally, what about the future of the flexible plate field? Obviously it is mainly tied to the packaging and business forms industries which have experienced unparalleled growth in the last decade. An important point to remember is that these industries print mainly from flexible plates. Also, the development of plates from which more than one million impressions may be obtained makes a strong case for this field in certain printing applications.

But as in other Graphic Arts fields, its progress will be decided in the laboratory. We again turned to Battelle's Jones and Palinchak for comment: "A plate material more resistant to inks and solvents, having improved dimensional control, and being capable of improved quality in printing of fine detail would do much toward a still greater use of flexible plates. These things can be brought about through research.

"The amount of material used in flexible plates is a relatively small amount of material to the rubber and plastics industries. Consequently, the amount of research devoted to this area by these industries is relatively small.

"However, there is considerable interest in the development of a more highly solvent resistant material by the printing roll manufacturers, and since the roll and plate manufacturers have similar problems, some of the roll developments will be applicable to dies. In this connection, there is work going on with modified polyester and epoxy-type materials."

"Only the surface has been scratched . . ." concluded the 1953 R&EC Committee in its report on the future of plastic printing plates. Molding plastic plates by the injection molding process (i. e. a form of plastic molding in which the plastic material is injected into the desired form) offers increased production possibilities, said committee members. They added: "Platemaking materials which combine the heat and solvent resisting properties of thermosetting materials and the desirable handling (correction, straightening, curving) properties of thermoplastic materials along with increased durability and faster processing would promote greater interest and wider acceptance by the industry."

(*Concluded*)

PNPA Publishes Directory

The majority of Pennsylvania's daily newspapers now charge 7c a copy, according to the 1958 Pennsylvania Newspaper Directory recently released by the Pennsylvania Newspaper Publishers' Assoc. Of 125 dailies listed, 65 sell for 7c, 45 for 5c, and most of the remainder charge less. Five cents is still the most popular price for weeklies, it was reported.

The directory is featured in a special 88 page January edition of the PNPA Press Bulletin, monthly trade journal of the association. Circulation figures totaling over eight million for all Pennsylvania newspapers are listed. Other data include newspaper advertising rates, county statistics, a map of newspapers by county, a list of newspaper representatives, and membership rosters of Pennsylvania press associations. There are also articles by some of the state's top newspaper executives. Copies of the directory may be ordered at $2.50 a copy from PNPA, 2717 N. Front St., Harrisburg, Pa.

Gummed Paper Runs are Easy If You Observe the Rules

Running jobs on gummed paper frequently pose many problems for the letterpress and offset printer. This is particularly true in the small shops where sometimes, because of the lack of humidity control equipment, atmospheric conditions makes it difficult to run gummed paper on the presses. Also, the small shop infrequently handles gummed paper jobs so it does not have the experience in handling this kind of paper that the specialty plant has that is continually printing gummed paper work.

But as you will see in this article, there is a solution to most of the problems encountered in running gummed paper. These remedies have been compiled by Paper Manufacturers Co. and printed by this firm in a series of *Helpful Hints About Gummed Paper* bulletins. The following information and illustrations are taken from the bulletins.

Selecting Gummed Paper

In the selection of gummed paper, more errors are made through "taking the gumming for granted" than through any other cause. Flat gummed paper is available with two types of gumming—strong and dextrine (in addition to special grades for metals and fabrics). Each of these two gummings sticks best to particular types of surfaces, as will be explained. In selling gummed labels or other gummed paper work, it is to your best interest, and to your customer's, to determine which type of gumming will best suit his particular needs. Here's how to work out the best answer to this question:

Strong gumming contains fish glue and will stick to those surfaces to which dextrine gumming will stick, plus additional ones (see list of surfaces to which each will stick).

Dextrine is an inexpensive gumming that sticks to a limited variety of surfaces in comparison to strong gumming.

Recommended Surfaces

When in doubt, always recommend strong gumming. However, dextrine gumming is entirely suitable for certain types of surfaces as indicated in the list below:

Dextrine gumming sticks to: Cardboard (coated), ceramics, china, enamelware, fine textiles, glass (not silicone coated), paper (fine), porcelain, rayon, cadmium plating.

Strong gumming sticks best to: Burlap, cadmium plating, canvas, cardboard, cellophane (not moistureproof), cloth, cotton goods, felt, leather (plain), linoleum (back), rubber, paper (wrapping), stone, wood (not painted), wool. In addition to the above list, strong gumming also sticks to the surfaces listed under dextrine gumming.

And here is how to tell which glue is which: Feel it. If necessary to tell when an adhesive is dextrine and when it is strong, wet the thumb and alternately touch the glue and lift the thumb. If it is strong gumming you will notice a threading effect as your thumb pulls away from the paper. This does not occur with dextrine gumming.

Or smell it. Dextrine smells like burned cereal; strong gumming like animal glue. In addition, you can generally detect the odor of sassafras, wintergreen or the like in strong gumming because these substances are frequently used as deodorants for that adhesive.

Fig. 1—Cross section of a sheet of gummed paper. Top view shows how adhesive penetrates the fibres of the paper when applied and when dry, forms thousands of teeth below the surface. Bottom view shows what happens when the adhesive is moistened and the label applied to a porous surface. Another series of tiny teeth penetrates this surface.

How Gummed Paper Sticks

A good deal can be learned about gummed papers by an understanding of how they stick to different surfaces. "Sinking your teeth into it" is a saying that might well illustrate why gummed paper sticks to a porous surface. In the case of Perfection flat gummed paper (manufactured by Paper Manufacturers Co.), adhesive is applied to the paper stock in liquid form. Some of this adhesive penetrates the fibres of the paper and, when dry, forms thousands of "teeth" or "hooks" below the surface (see Fig. 1, top). When the adhesive is moistened and the label is applied to a porous surface, another series of these tiny "teeth" penetrates this surface (see Fig. 1, bottom). This double-locking action holds the label fast to porous surfaces.

But what about surfaces which the moistened gumming cannot penetrate and which, therefore, it cannot get its "teeth" into? Stick-to-metal gummed paper is one answer here, but there is an exception which should be noted first. That exception is glass. While glass is definitely a non-porous surface, it is receptive to a water moistened gumming. The materials used in its manufacture are partly responsible. Another reason is that a glass surface has an affinity for water through surface tension. To illustrate this, what happens to a drop of water on glass is shown in Fig. 2, top. The same drop of water placed on other non-porous surfaces reacts as in Fig. 2, bottom.

Suggestions for Other Surfaces

In order to make gummed paper stick to surfaces which contain either printing ink or varnish, the following suggestions may be helpful. On surfaces containing spirit varnish, first try regular gumming (dextrine or strong glue) by adding to the moistening water an ingredient which will soften the varnished surface. Sometimes alcohol (10% by volume) will work. If not satisfactory, consult varnish manufacturer for solvent used in making the varnish and add some of it to moistening water. When applying a gummed label in this manner, the water dissolves the gumming, the solvent softens the varnish and when the two come together they stick.

On surfaces containing printing ink or overprint varnish, it must be remembered that the ink or varnish dries by oxidation—not by evaporation; therefore, solvents may not soften the printed film. However, before the job is run, if it is known that a water moistened gummed label is to be applied to the printed surface, your ink manufacturer can furnish a suitable ink or varnish. If a water moistened gummed label is required for sticking to a printed surface that has not been especially prepared, it will sometimes work by adding to the moistening water 5% of Cellosolve or Methyl Cellosolve, both of which will mix with water.

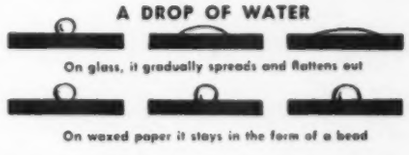


Fig. 2—Stick-to-metal gummed paper is recommended for non-porous surfaces. The one exception is glass which is receptive to a water moistened gumming. Illustrated at top is what happens to a drop of water on glass; below, a drop of water placed on other non-porous surfaces.

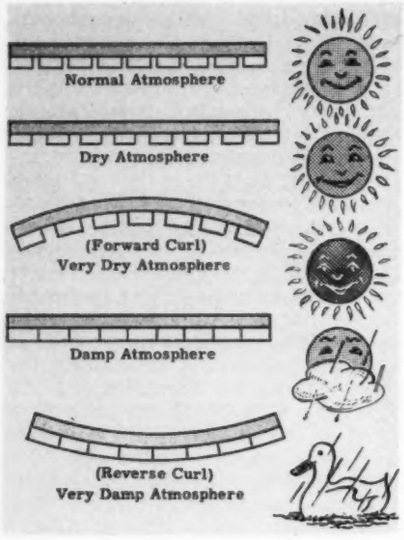


Fig. 3—This is how gummed paper reacts under different atmospheric conditions. Each part of the diagram is a cross section view of a sheet of gummed paper. The shaded part is the paper; below it is the gumming.

Perfection 360 stick-to-metal gummed paper is recommended for sticking to acrylics, aluminum, brass, cast iron, copper, chrome plating, glass (silicone coated), nickel plating, paint, plastics, polyethylene, polystyrene, steel, tinplating. It must be remembered that rolled metals such as tin have an oily surface because quantities of oil are used to keep the metal cool in the rolling process. This small residue of oil on the surface repels a water moistened gumming.

Since all metal and other nonporous surfaces have varying characteristics, it is well to pre-test gummed paper before final recommendation. In such tests, 60 min. should be allowed for drying of the adhesive.

Why Gummed Paper Lies Flat; Why It Curls

Extreme humidity, not necessarily extreme temperatures, affects all printing papers. Perfection gummed papers are made noncurling, but humidity can affect them; and the following facts, which necessarily apply to all gummed papers, may be helpful.

Perfection flat gummed papers are made by applying a wet adhesive to the paper, and this is a continuous operation from rolls. As the paper passes through the drying chamber, the moisture evaporates from the gumming which makes it contract and curl. The paper curls very much before the gumming has been "broken." A small amount of gumming penetrates into the surface of the paper. The gummed side is broken up into a multitude of small sections and there are spaces between the sections of gumming. The "penetrated" gumming cannot be broken.

When dry air absorbs moisture from the gumming, these small sections are free to contract individually, thus keeping the sheet flat (Fig. 3). But if the paper is placed near steam pipes, or where the air is very dry, the penetrated gumming will contract and the sheet will curl towards the gumming. This is known as a forward curl, but a slight increase in humidity will bring the paper flat.

When the air is damp, the small sections are free to expand until they come together, and the sheet still remains flat. But if the paper is exposed to very damp air (near an open window, for instance) the gumming will expand and the sheet may curl away from the gummed side. This is known as reverse curl, but will disappear and the paper will become flat again when a decrease in humidity occurs. In rare cases of undue exposure, the broken sections of gumming will become sealed together again and the paper will curl permanently in what is called "healing" of the glue.

Many printers think nothing of paying hundreds of dollars for spray equipment to prevent offset. A few dollars invested in a hygrometer (an instrument for measuring moisture in the atmosphere) would be of equal value in helping to prevent stretch, curl and other problems resulting from varying humidity conditions.

Solution to Humidity Problem

Air conditioning equipment is needed to reduce humidity, but an easy way to increase it is to evaporate water into the room by spraying it around with an ordinary insect sprayer (see Table for Quantities of Water Required, Fig. 5).

Gummed paper runs best when the atmospheric humidity is not too low. To be specific, the following schedule may be helpful and of course, the normal degree of humidity is best.

Very Dry	under 35%
Dry	35% to 40%
Normal	41% to 55%
Damp	56% to 65%
Very Damp	over 65%

Wide variations in the relative humidity of the stockroom, pressroom and bindery, must be avoided if trouble is to be prevented. A number of different conditions of temperature and relative humidity are advocated by different authorities, although there is no disagreement in basic principles.

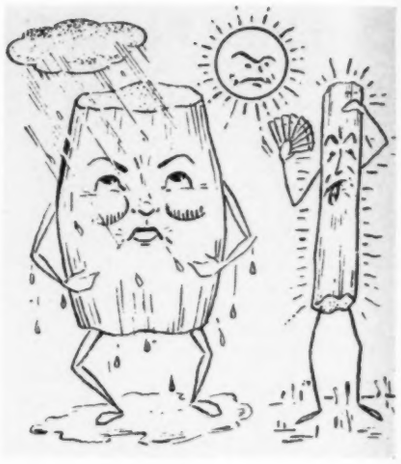


Fig. 4—The above illustrations are supposed to show greatly magnified (and exaggerated) views of the fibres in a strip of paper. Illustration at left is exposed at say 60% relative humidity and illustration at right is the same fibre exposed to 20% relative humidity. Thus expansion of the fibres through moisture absorption caused the paper to stretch a great deal more in width than in length.

Although the gumming has no direct bearing on grain direction, it is well to remember that a sheet of gummed paper consists of two widely different surfaces. The gummed side expands and contracts far more than the ungummed side when subjected to atmospheric changes.

Determining Grain Direction

In gummed paper the grain direction can often be ascertained by looking at the gummed side from different angles. As a rule, you will eventually notice some evidence of the direction in which the glue was applied: a slight scratch, one or more lines, or some similar characteristic. That will be the grain direction. The grain in paper is the direction in which the fibres lie. The grain is always parallel to the edge of a roll.

Each fibre is composed of a hollow strawlike cellulose material expanding when absorbing moisture and contracting when giving up

Fig. 5—This table shows the quantities of water which must be evaporated to raise the relative humidity within a room. One way this may be done is by spraying water from an ordinary insect sprayer.

Number of pints of water required to raise the relative humidity for every 10,000 cubic feet of room space.

If the relative humidity is	and you raise it to	You must evaporate this quantity of water if the temperature is: — 60°F.	70°F.	80°F.
10%	20%	1.0 pints	1.2 pints	1.5 pints
10%	30%	2.0 pints	2.7 pints	3.0 pints
10%	40%	2.7 pints	3.7 pints	4.7 pints
20%	30%	1.0 pints	1.4 pints	1.5 pints
20%	40%	1.7 pints	2.5 pints	3.3 pints
30%	40%	.7 pints	1.0 pints	1.7 pints

moisture. Change takes place very quickly—probably 90% of it in the first 10 min. or less. Fibres expand about 10 times more across their width than in length.

Lithography is a wet process which causes fibre expansion or stretching. When the paper is cut grain long, the diameters of the fibres are assembled across the shortest dimension of the sheet, thus causing the smallest amount of stretch. The long edge is the leading edge when lithographers

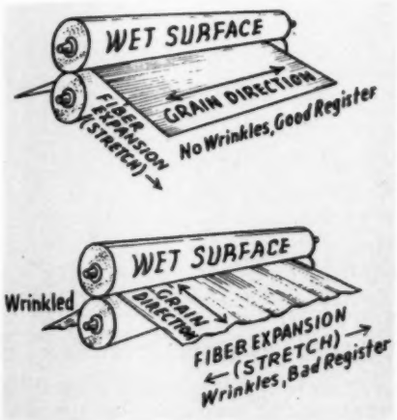


Fig. 6—These illustrations show why it is desirable in offset printing to run the sheet with the grain long. At top is a sheet being run through the press grain long. As soon as the water touches the paper, the fibres begin to swell but the stretch which this causes is across the short dimension. Below shows what would happen if the expansion were across the long edge. The stretched paper wouldn't have anywhere to go, so wrinkles might form and poor register result.

feed paper into their presses. As soon as the water touches the paper, the fibres begin to swell but the stretch which this causes is across the short dimension, behind the long leading edge towards the other long edge (Fig. 6, top).

If the expansion were across the long edge, which has already been nipped in the press, the stretched paper wouldn't have anywhere to go, so wrinkles might form in the paper and poor register would spoil the job (Fig. 6, bottom).

Tensile strength is higher with the grain. Tearing strength is higher across the grain.

Who's Afraid of Water?

There is a reluctance on the part of many offset printers to use gummed paper because of the water that is an integral part of their process. There is no need to fear water and gummed stock on the offset press providing a few points are kept in mind:

(1) Bring gummed paper to the pressroom a day or two before printing it. Slit the wrappers on the edges of the packages and allow the paper to remain in stacks

(*Continued on Page* 70)

Overcomes Press Pit Hazards

Floor coverings for press pits in newspaper pressrooms have been a potential source of trouble in a number of plants for some time. In the pressroom of the Pottsville (Pa.) *Republican* such a hazard existed for many years, finally resulting in what could have been a disastrous fire. The solution may be helpful to other plants faced with similar situations.

In the *Republican* plant, a pit is located between two Twin Duplex presses and two smaller pits one each located at the outside of each press. In the pit between the presses are located the drive motors and the synchronization mechanism.

The pits must be entered daily in order to lubricate the drive motors and also to synchronize the presses with mechanical couplers when they are to be operated as one press. The pit on the outside of each press permits access for lubricating purposes. They are also for emergency use when the occasion requires that the press be turned over by hand bar.

Wood Planking Unsatisfactory

The press pits were formerly covered with 2 in. thick oak planking which, of course, had become oil soaked as the years passed. The planking was unsuitable from just about every angle: It presented a safety as well as a fire hazard; the trap doors were heavy to lift whenever a worker had to enter the pit; lacking tight joints, dirt and other foreign matter sifted through the cracks into the pit, causing a constant maintenance problem; and last but not least, its slippery surface was a real hazard to the men working around the press.

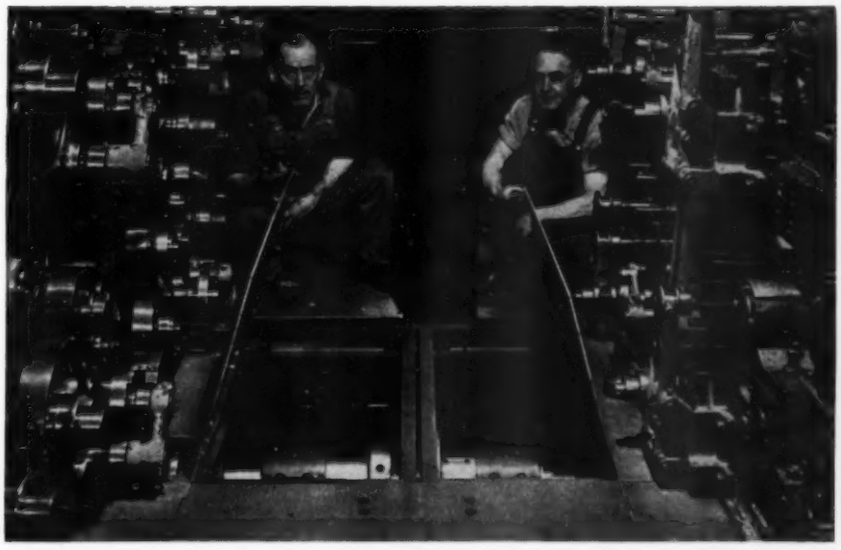
Then, one day the inevitable happened. A press drive motor in the pit caught fire and quickly spread to the oil and ink soaked wood planking. Disaster was averted by some quick-thinking employees who prevented the fire from spreading to the presses and subsequently to the rest of the building.

Management took quick steps to prevent a repetition of what could have been serious trouble for the *Republican*. An investigation was started by J. H. Zerbey, III, general manager, to find a suitable covering material, preferably metal, for the press pits. The material selected would have to support weights up to 1 T.

Solution to the Problem

An aluminum alloy abrasive tread floor plate, manufactured by Aluminum Co. of America, was selected. Engineering data were presented to show the Alcoa plate stays slip-proof when wet or greasy.

The 0.250 in. thick plate was selected and installed. The area covered between the presses is 5½ ft. by 14 ft. dimension and angle bolted to the walls on the sides and ends. The two smaller pits located on the sides of the presses were also covered. These measure 2½ ft. by 3 ft. and 2½ ft. by 6 ft. There is no structural support under the smaller pit other than the concrete walls on which it bears. There is a single support for the larger pit at the 3 ft. mark on the 6 ft. dimension. The plate is hinged.



Pressmen at the Pottsville (Pa.) *Republican* demonstrate the use of Alcoa abrasive tread floor plate for covering the pit which houses drive motors and synchronization mechanism in the pressroom. The floor plate installation overcame hazards which existed when wood planking was used for the covering.

How To Analyze

Teletypesetter Production

On Linecasting Machines

By AMOS G. HOFFMAN*

**Midwestern Mgr., Intertype Company. From address before Great Lakes Mechanical Conference, Indianapolis, Ind., January* 1958.

This analysis was made in response to a request for the casting experience of Teletypesetter users by the production manager of a daily newspaper not now setting type automatically.

The primary objective of any automatic typesetting operation is to consistently obtain the maximum number of corrected lines of composition within a given period of time. To properly evaluate this objective, the following factors are to be considered: (1) Operating speed of the equipment, (2) Operating efficiency of the equipment, and (3) Degree of accuracy obtained.

Since all of the factors that affect automatic typesetting machine operation vary from plant to plant, it is difficult, if not impossible, to either forecast or recommend an optimum operational rate.

We approached the problem by analyzing a given installation in terms of percentage of efficiency by determining the actual number of lines produced, as compared to the true operating speed of each machine. This factor can then be studied together with the per cent of error encountered.

With such information at hand, true performance comparisons can be drawn between individual machines without bias, opinion or assumption.

To obtain a true picture of the performance of a machine, the following information is required for each machine analyzed: (1) Lines per min. speed, (2) Total potential production, (3) Waiting time, (4) Number of lines actually produced, and (5) Number of errors.

Lines Per Minute Speed

This is the actual lines-per-minute speed and is individually determined for each machine analyzed. One way of determining the speed is to cast lines continually for exactly 5 min. and divide the total number of lines by 5. Actual casting is necessary to obtain a valid figure because of possible resistance to the upstroke of the plunger, and consequent slight reduction in speed.

It is significant that only one of the machines analyzed actually operated at the speed claimed for it.

Automatic Saw Co. recently moved into this modern plant located at 425 N. Senate Ave., Indianapolis 4, Ind. During the week of Jan. 9-14, the firm sponsored a Graphic Arts in Action Show at the plant for newspaper executives attending the Great Lakes Mechanical Conf. in Indianapolis, and for other interested groups. The show featured printing machinery in operation. As an announcement of the show, Automatic Saw published an attractive two color, four page bulletin. Outside pages of the bulletin were printed by letterpress, and inside pages by offset.

Total Potential Production

This is the total number of lines that can be produced through constant operation at the previously established lines-per-minute speed of a particular machine. Potential is obtained by multiplying total number of minutes analyzed by calculated machine speed.

Example: Suppose production for a 7½ hr. shift is analyzed. This amounts to 450 min.; multiplied by, say, 9.3 lines per min. speed, results in a potential of 4185 lines per shift.

Waiting Time

This consists only of time when no tape is at the machine or when the tape is not keeping pace with the machine. This is calculated in multiples of minutes and totaled for the period of time covered by the analysis. No fractional parts of minutes are used. The time is recorded when a machine is completely out of tape. When the tape is not keeping pace with the machine, the Teletypesetter operating unit is shut off for 1 min. or more in multiples of minutes and recorded. The total number of minutes recorded as waiting time is subtracted from the total minutes used to determine the potential production. The result represents the productive minutes utilized during the period of the analysis.

Example: Suppose 47 min. are recorded as the total waiting time for a 7½ hr. shift. When these 47 min. are subtracted from the potential of 450 min., 403 productive min. are available; multiplied by the 9.3 lines per min. speed, the potential production for productive minutes becomes 3748 lines.

Time lost due to distributor

stops, assembler squabbles, transfer trouble, tape failure, etc., is not calculated as part of the waiting time. Such time lost is regarded as down time, considered as part of a normal operation, and no deductions are made. Deductions should be made for a major breakdown, such as metal pot heating element failure, power failure, etc., which seldom occur and which are not regarded as part of a normal daily operation.

Number of Lines Actually Produced

Arrangements are made in advance to obtain a duplicate set of proofs for use in the analysis. Guide lines or *take* lines are cast in advance. They should be set in a type face and point size that is easily recognized and in numerical sequence. These guide lines are placed over each *take* before the type is delivered to the dumping bank for proofing.

The system of numbered guide lines is used to be sure that all type cast is credited to the machine, and that no *takes* are duplicated.

A hook or spindle should be provided exclusively for these extra proofs, which should be cleared almost immediately as proofs are taken, especially when the production from more than one machine is to be analyzed. Of course, the reason for the constant checking of proofs is to detect missing *takes* which become apparent when guide lines are not in numerical sequence. Great care and constant supervision are required to assure that all type cast is accounted for through the use of the guide lines.

It should be an actual count of lines, not a measurement plus a conversion into lines, thereby assuring a high degree of accuracy.

Because it is an analysis of the number of lines cast, the nature of the single column composition is not a factor. Blank lines, sometimes used to indicate the insertion of a heading or a dash, should be counted, as should all guide lines used to identify the perforator operator and the story.

If desired, the two point sizes of text type usually used can be separated.

Is Suggestion Box on the Way Out?—The standard wall type suggestion box found in production departments of many printing plants throughout the country may soon have a replacement, if the sponsor's idea goes across. UARCO, Incorporated has produced a two ply, carbon interleaved, self mailing suggestion form, which eliminates the need for a suggestion box. The self mailer enables an employee to describe briefly the present method, outline his proposed idea, clip a receipt for the suggestion, and drop the form in the mail. Postage is paid by the company. Sponsor states the new form is expected to encourage companies who do not have suggestion systems to adopt the self mailing method.

Number of Errors

Arrangements should also be made in advance to save all the office proofs bearing the special numerical sequence guide lines. This is necessary in order to determine the number of corrections marked by the local proofreaders, which are to be recorded for the purpose of calculating the per cent of error.

Tabulation of Line Count

The result of the count can be tabulated for each machine by take number, point size of type, total lines, and errors, with a grand total for the duration of the analysis.

The figures used previously for the examples for Total Potential Production and for waiting time are actual experiences for the production analysis for one machine. The experience with the same machine is used below to demonstrate the tabulation of information derived from the line count.

Take No. 1 accounted for 51 lines of 5½ pt. with 3 errors; take No. 53, the final take, 93 lines of 8 pt. with no errors.

In all, there were 53 takes; 971 lines of 5½ pt.; 2487 lines of 8 pt.; total 3458 lines, on which local proofreaders found 68 errors.

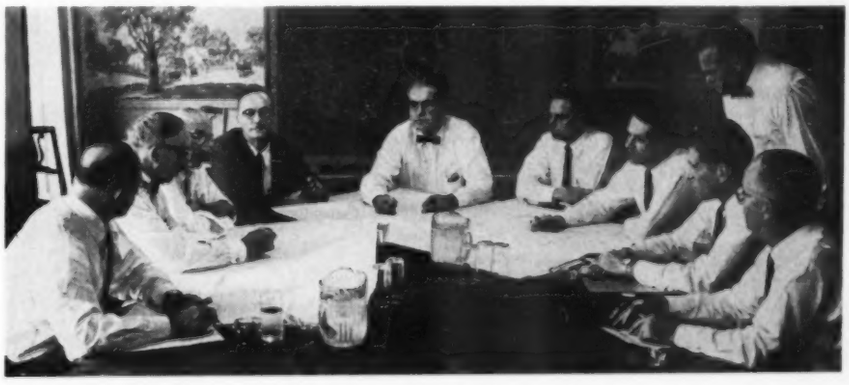
Development of Significant Figures

Per Cent Efficiency—Determined by dividing the number of lines actually produced (3458) by the potential production for productive minutes (3748). Result, 92% efficient.

Per Cent Error—Determined by dividing the number of errors (68) by the number of lines actually produced (3458). Result, 1/97% error.

Summarizing the steps taken to arrive at the efficiency per cent and the error per cent, the following information is required and was obtained as given for the machine production analysis used for the

Hoe Workshop Meeting—Continuing its program of integration of sales and engineering, R. Hoe & Co., Inc. recently held its regular shirtsleeve seminar in New York, N. Y. The seminar was devoted to a discussion and review of the company's most recent engineering developments and their marketing implications. Regional Managers from the West Coast, Midwest, New England and Canada, South and Southwest participated. Shown above, left. to right are: Fred Gebhard, R. A. Willowby, Gordon Elrod, Frank Neal, Burton C. Polglase, McHenry Browne, Wm. W. Henderson, C. M. Keeter (standing), L. D. Pollock, and W. J. Robinson.



examples throughout this presentation:

Lines per minute speed (9.3).

Elapsed time in minutes (450).

Total potential production in lines (4185).

Waiting time in minutes (47).

Productive time in minutes (403).

Potential production for productive minutes in lines (3748).

Number of lines actually cast (3458).

Number of errors (68).

I checked the records of eight machines from which the production was analyzed. The following averages for the eight machines provide the basis for interesting comparisons with individual operations when making a similar production analysis:

10.2 average lines-per-min. speed.

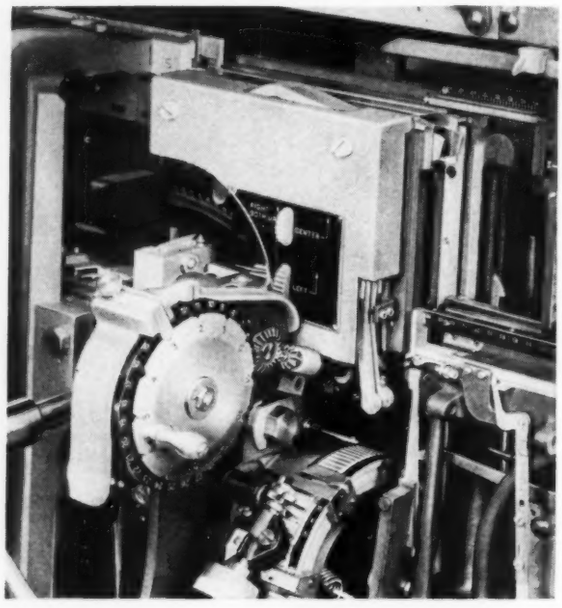
89½ min. per 7½ hr. shift average waiting time.

8.3 lines per min. average actually cast in productive time.

82% average efficiency.

3.49% average error.

Finally, such a production analysis is revealing when conducted with impartiality under normal operating conditions. Otherwise the record will not only be without value, but will be misleading. The object is to determine exactly at what degree of effeciency and accuracy equipment is performing, so that, if indicated by the result, steps can be taken to improve performance.



Closeup of Intertype's Dual Duty Quadder coaxial dials, one-measure control, memory unit and auxiliary mechanical control.

Intertype's Dual Duty Quadder

After several months of field-testing, Intertype has made available its Dual Duty Quadder, a device for automatic composition of white space. The quadder can be furnished as extra equipment on all new Intertypes and can be applied to outstanding pedestal base Intertype machines.

The Dual Duty Quadder is adaptable to either manual or automatic operation without modification. For automatic operation it is plugged into the TTS operating unit.

Horizontal pushbutton controls, with color coded signal lights for manual operation provide for quadding left, center, or right, and for normal justification. Lines beyond justification limit are automatically quadded flush left.

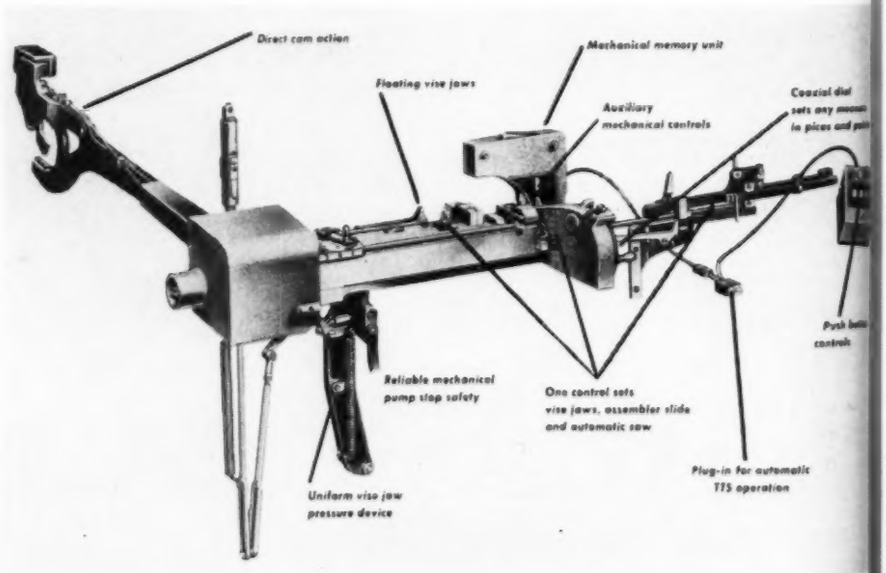
A mechanical memory unit permits as many as three lines with different quadding requirements to be in process simultaneously—for example, one casting flush left, one waiting to be centered, and the third being assembled to cast flush right. An auxiliary mechanical control on the face of the memory unit permits the quadder to be operated in the event of failure of the electrical signal system. The Dual Duty Quadder can also be made inoperative, just as though the machine were not quadder-equipped.

A measure control operates vise jaws, assembler slide and saw in a single action. They can also be set independently. Coaxial dials provide for setting measures up to 30 picas in picas and points.

A spring-loaded jaw tension device is designed to provide uniform jaw pressure for all quadder functions. Jaw pressure is relieved between first and second justification actions. Spacebands rise on all quadder functions for ample spacing between words.

Sponsor states that on the Intertype Dual Duty Quadder minimum adjustment and maintenance are required. The vise jaws snap on and off for cleaning purposes. The jaws are mounted to float and are self-aligning. They always fit flush to the mold face and never need adjustment. Precise margin alignment, whether composition is justified or quadded, is provided. Circle No. 260 on Reader Service Card.

Rockefeller Organization Moved — The firm of J. W. Rockefeller, Jr. and Associates, consulting engineers, has moved from Millburn, N. J. to larger quarters at 640 Morris and Essex Turnpike in Short Hills, N. J.


Direct cam action
Mechanical memory unit
Floating vise jaws
Auxiliary mechanical controls
Coaxial dial sets any measure in picas and points
Push button controls
Reliable mechanical pump stop safety
One control sets vise jaws, assembler slide and automatic saw
Plug-in for automatic TTS operation
Uniform vise jaw pressure device

Intertype's Dual Duty Quadder is shown here assembled, but not installed on machine. Quadder may be changed from manual to automatic operation by plugging into TTS keyboard operating unit.

PIA Executives' Calendar for 1958

The January issue of *Printing Equipment Engineer* carried an uncompleted calendar of Printing Industry of America's 1958 meetings. Since then, however, PIA has released a more detailed and complete executives' calendar for members. It is often a difficult task for a large organization to schedule a wide range of meetings with dates, places, and topics a year in advance. PIA has accomplished this task and the result is a well coordinated calendar of events.

Professional Conferences

During 1958 PIA has scheduled four Professional Conferences. These conferences enable printing management to come abreast of the latest information in sales, finances, production and top management.

Presidents Conference for Top Management (4th) — **January 27-31**

Palm Beach, Florida, Palm Beach Biltmore Hotel

Theme: *The Forward Look in Printing* to help management adjust its sights for the next 5 years.

Can We Afford to Grow
What and to Whom Shall We Be Selling
Planning Your Future Work Force
Planning Now to Use the Machinery and Methods of Tomorrow
Easing the Pressure—More Milleage Out of Your Time

Sales Conference (5th) — **March 13-14**

Chicago, Illinois, Edgewater Beach Hotel

Theme: *Selling for Increased Profits*

How to Get Your Salesmen to Want More Sales
How Better Service Can Pay Off
Selling in Action
101 *Ways to Put Excitement in Advertising*
How to Improve Selling Efficiency

Financial Conference (3rd) — **May 8-9**

Chicago, Illinois, Edgewater Beach Hotel

Theme: *How Profits are Made*

Case Histories:
From Red to Black thru Financial Control
How Do We Price a Job?
Should Every Job Show a Profit?
Methods of Arriving at Rates and Prices

Address:
The Changing Business Outlook

Concurrent Workshop Sessions
Planning and Budgeting
Methods of Measurement
Financial Reports for Profit Control

Production Conference (2nd) — **December 4-5**

Chicago, Illinois, Edgewater Beach Hotel

Theme: *Planning for More Profitable Production*

Utilization of Manpower Materials and Machines
How Good is Our Quality
New Development of Materials and Equipment
Measuring Our Output

Special Sectional Meetings

Special Sections, and related services, within the framework of PIA include Web Offset, Trade Binders, Ticket and Coupon, Rotary Business Forms, Magazine Printers, and Printers Rollers. The Sections carry out certain projects in the form of research studies, survey reports and exchange of general information pertinent to specific problems and regular communication between members in the form of bulletins. In addition, the Sections hold formal meetings, the agenda of which are devoted to certain significant themes deemed to be in the best interest of the membership. Proceedings of these meetings are published and made available to all active members.

Magazine Printers — **To be announced**

Printers Rollers — **January 23-24**
Chicago, Illinois, The Drake Hotel

Rotary Business Forms — **March 18-21**
Chicago, Illinois, Edgewater Beach Hotel

Trade Binders — **March 1-2**
Detroit, Michigan, Hotel Statler

Web Offset — **June 5-6**
Chicago, Illinois, Edgewater Beach Hotel

Ticket & Coupon — **To be announced**

72nd Annual Convention

Hotel Statler, Dallas, Texas, October 13-16

The annual convention provides a forum for members to meet and discuss problems of the industry. The program includes speakers of outstanding reputation on subjects of current interest, and professional conferences dealing with principal phases of management. Special features include the second showing of Graphic Arts Information Show and the sixth exhibition of Printers' Self-Advertising.

Union Employers Section

A meeting of the UES will be held at the spring board meeting and the annual convention. In addition regional meetings will be scheduled during the year as requested by members of the area.

Master Printers Section

National meetings of MPS will be held at the spring and fall conventions, in addition to numerous local meetings.

Board of Directors Spring Meeting

Hotel Greenbriar, White Sulphur Springs, W. Va., April 13-16

The spring meeting provides an opportunity for long range program planning. PIA Board of directors meets twice a year and the executive committee meets at least four times.

Local Association Presidents

LAP members will meet at the spring and fall conventions with national officers for an exchange of ideas.

PIA Local Managers, Institute

Kenwood Country Club, Washington, D. C., April 7-10

Purpose of the three day Institute is to give local managers a complete understanding of PIA's present and proposed activities.

State, Regional and Local Meetings

State, regional and local meetings are to be arranged. These events are important channels for the dissemination of PIA services.

Printing Week Celebrations Focus Industry's Importance

International Printing Week, celebrated last month in most U. S. and Canadian cities, continued on the same accelerated scale as provided by celebrations of recent years. It was another well done public relations job by members of the Graphic Arts who used every outlet to bring the story of their industry to the general public.

One reassuring note in this year's Printing Week activity was the noticeable increase of participation by other than the usual Graphic Arts organizations. Evidence of this gain came last fall when Printing Industry of America passed a resolution favoring the participation of its members in local Printing Week celebrations.

From reports received there is evidence, too, that more cities participated this year than before. Other conclusions were: More cities have formed councils to run the celebration, thereby divorcing the activity from a single group and making it truly industry-wide. Also, some cities started copying the activities presented by other cities which proved some of the promotion ideas tried in the past have met with success.

The coordinating job for 1958 Printing Week, as in the past, remained with the Intl. Craftsmen's Assoc. This task again befell Robert M. Edgar, Neyhart Printing Co., Pittsburgh, who repeated the successful leadership he provided the 1957 celebration.

Printing Week activities interrupted the schedules of many in the Graphic Arts. A number of industry leaders traveled to distant points to fulfill speaking engagements arranged far in advance by local committees. Among the long distance travelers were: Ferd Voiland, jr., president, Intl. Craftsmen's Assoc., who spoke in St. Louis, Des Moines, Waterloo and Indianapolis; A. R. Tommasini, past president, Intl. Craftsmen's Assoc., who appeared in Birmingham, Charlotte, Atlanta and New Orleans; and William T. Clawson, director of advertising, Harris-Intertype Corp., who gave talks in Topeka, Wichita, Colorado Springs, Kansas City and Joplin.

Here are some of the reports of Printing Week received at press-time:

Hartford

Two big highlights of the celebration in Hartford, Conn. were an exhibit of the best printing done in 1957 by local printers and the Printing Week banquet. The exhibit was located in the Hartford Club. Local printing firms sold tickets of admission. Banquet speaker was John Scott, assistant to the publisher, Time, Incorporated. A letterhead contest conducted in the local schools was designed to stimulate interest in printing among students.

Grand Rapids

Grand Rapids, Mich. also focused most of its attention upon students and exhibits of locally-produced printing. A letterhead contest and library and museum displays were included. Banquet speaker was Fred Swan, assistant to the dean, Trade and Industrial Div., Ferris Institute, Big Rapids, Mich.

Kansas City

Kansas City, Mo. invited outstanding printing students, school board members, principals and printing instructors to its annual banquet. Wm. T. Clawson, Harris-

Philadelphia

Queens Add Glamour to Printing Week Celebrations

1 Milwaukee's Miss Printing Week and court of honor. Left to right: Marjorie Zoesch, John Higgs Studio; Diana Lorenz, Andrews Agency; Miss Printing Week, Lou Ann O'Connor, Mathisson Adv. Agency; and Joan Lebakken, Moebius Printing Co.

2 Principals in Philadelphia's celebration discuss a window display card which was one of several hundred distributed in that city. Left to right: Fred DiToro, production manager, Rapid Electrotype Co.; Harry Seeberger, production manager, Arndt, Preston, Chapin, Lamb and Keen; Jack Simmons, president, Chromart Company.

3 Cleveland chose a queen and two attendants to help sell the industry to the general public. Here they pose with Ross Duncan, general chairman. Left to right are: Karen Smith, Manning Studios; Marilyn Stockhauser, the queen, of Fuller & Smith & Ross; and Phyllis Smith, Howard Senor ad agency.

4 Miss Printing Week of Chicago dictates a memo to that city's printing industry to remind its members to participate in the celebration. Obvious endorsement is registered by, left to right: Edward M. Egan, president, Chicago Craftsmen's Club; Edward A. Merkel, Printing Week chairman; and Len Berman, editor, *Printing Views*.

Intertype Corp., spoke on *How Is Your CR (customer relations)?*

Philadelphia promoted a full schedule of week-long events. Highlight was the selection of a Man of the Year in the local Graphic Arts. He was A. H. Kinsley, president, Printing Industries of Philadelphia. There was also a Best of the Year contest for the best pieces printed locally. Another feature was a students' career forum and open house to acquaint young people with the Graphic Arts. Bennett Cerf, publisher, Random House, New York, N. Y., spoke at the banquet.

Atlanta
New York
Syracuse
Cleveland

Printing industry groups in Atlanta, Ga. joined forces to stage one of its biggest celebrations. Key downtown display spots were utilized for a series of exhibits. An essay contest in the high schools, television and radio programs, and a Miss Printing Week comprised other parts of the over-all program. The big banquet featured A. R. Tommasini as speaker.

The nation's biggest city, New York, again staged the biggest Printing Week program. Most publicized event was the presentation of the Franklin Award for Distinguished Service to former President Harry S. Truman. At the banquet, a tribute to Benjamin Franklin was delivered by Dr. John C. Warner, president, Carnegie Institute of Technology. The popular Exhibition of Printing was repeated for the 16th year at a midtown hotel. The New York School of Printing arranged a week-long program. Another feature of the city's program was the Printing Week Playhouse which offered Graphic Arts movies.

Syracuse, N. Y. invited senior class students of four Craftsmen printing instructors to its big banquet. Three local speakers were featured: Dean Wesley C. Clark, School of Journalism, Prof. Laurance Siegfried, chairman of the Graphic Arts Dept., both of Syracuse University; and Dr. Donald Bean, director, Syracuse University Press.

Another student of Cleveland's public schools was sent to Rochester Institute of Technology as part of that city's observance. He is the sixth winner of the annual scholarship now given by the Cleveland Graphic Arts Council which runs Printing Week. Other awards were in the form of medals to outstanding printing students. The all-industry banquet featured

President Eisenhower's Printing Week Message

Colonel H. R. Kibler, President, Printing Industry of America, received the following telegram from The President in recognition of Printing Week:

"Benjamin Franklin's birthday is appropriately celebrated in the annual observance of Printing Week.

"The processes of civilization — cultural, intellectual and economic — have long been quickened by the arts and skills of the printing industry. By renewing a grateful Nation's memories of Benjamin Franklin, printer, scholar and public servant, other resourceful young Americans are encouraged to follow his example in choosing a career in this productive field.

Dwight D. Eisenhower"

Mayors, Governors Endorse Printing Week Programs

5 One of the window displays which appeared in Atlanta, Ga. during Printing Week. It includes continuous movies explaining the Graphic Arts processes.

6 Wichita's mayor signs Printing Week proclamation in the presence of (left to right): Edward Armstrong, president, Wichita Printing Industry; Wichita's Miss Printing Week; Ralph Vautravers, Printing Week chairman; and Waldo Leisy, president, Wichita Craftsmen's Club.

7 Officials of New England Graphic Arts organizations assembled at the State House in Boston to witness Massachusetts Governor Foster Furcolo sign Printing Week proclamation. Standing, left to right: Paul Palm, president, New England Supplymen's Guild; Robert Baram, manager, New England Weekly Press Assoc.; Albin R. Johnson, president, Boston Craftsmen's Club; Philip E. Nutting, president, Boston Ad Club; James Fraggos, president, Boston Litho Club; Frank J. Jervis, president, New England Screen Process Assoc.; Miss Printing Week; Francis J. Tominey, Printing Week chairman; William J. McFarlin, president, New England Graphic Arts Institute; and Robert Thompson, president, Bookbuilders of Boston.

8 New Orleans' mayor presents Miss Printer's Devil with proclamation. Others in the group are, left to right: Emmett Fremaux, president, Ad Club; Jimmy Byrne, Printing Week chairman; Warren Forstall, president, New Orleans Craftsmen's Club; and Burton Cary, president, Printing Industry of New Orleans.

New York Honors Truman — Former President Harry S. Truman received the Franklin Award for Distinguished Service from Robert L. Sorg (left), chairman of the board, New York Employing Printers Assoc., at New York's Printing Week Dinner. Looking on is Dr. J. C. Warner, president, Carnegie Institute of Technology, who delivered an appreciation of Benjamin Franklin at the dinner.

Thomas P. Whitney, foreign affairs analyst, Associated Press, and a small symphony orchestra. Several organizations held special meetings in commemoration of the event.

St. Louis
Baltimore
Wichita
Pittsburgh

St. Louis, Mo. offered a full week's schedule of plant tours to such firms as Crown Zellerbach Corp., Tension Envelope Co., Von Hoffmann Press, and *The Globe-Democrat*. Featured speaker at the Printing Week banquet was Intl. Craftsmen President Ferd Voiland, jr. whose topic was *Spotlighting the Graphic Arts*.

A number of organizations banded together in Baltimore to present its program. Every outlet was used to publicize the Week. Local firms were urged to hold open house for the public.

Wichita invited the entire senior class from the Vocational Printing Dept. of one of its high schools to the Printing Week banquet, as well as printing instructors from intermediate and high schools. Speaker was Wm. T. Clawson, Harris-Intertype Corp.

A new organization composed of all Graphic Arts groups in Pittsburgh sponsored Printing Week in that city this year. The new group offered what it termed the biggest celebration in the city's history.

Ray Grimaila, Connecticut Printers, Inc., Hartford, Conn., gave his vote for a Miss Printing Week to the office girl who, in many plants, does everything. He expressed himself with this cartoon which appeared in *The Hartford Craftsman*.

Chicago
Rochester
Louisville
Milwaukee

Carnival of Graphic Arts is what the Chicago Craftsmen called their biggest Printing Week event. It included arrangements for games of skill in the meeting room with prizes awarded to the winners. Speaker of the evening was John P. Carmichael, sports editor, Chicago *Daily News*. Printers of this city also honored Ben Franklin with a traditional wreath-laying ceremony at his statue in Lincoln Park.

The annual Printing Week banquet in Rochester, N. Y. featured a talk by Floyd C. Larson, executive secretary, Intl. Assoc. of Electrotypers & Stereotypers. Also in that city, Rochester Institute of Technology staged a program of its own with Dr. Marvin C. Rogers, Graphic Arts consultant, as guest.

Highlight of Louisville's celebration was a banquet at which O. C. Holland, director of advertising, Interchemical Corp., Printing Ink Div., played the role of a color magician. The affair was attended by many of the city's Graphic Arts groups.

The full Printing Week treatment was provided Milwaukee printers. The program included special window displays, library exhibit, radio and TV programs, plant tours, press luncheon and school activities. Speaker at the big banquet was John Scott, *Time Magazine*.

She Finds Jobs For Executives

Helen M. Winters understands printing executives and printing. For a woman this might be considered somewhat unusual, but for Miss Winters it is a major part of her job. As manager of Graphic Arts Employment Service, Cincinnati, O., the only national executive employment service dealing exclusively with the printing industry, her career is finding jobs for printing executives and supervisors.

Each year thousands of job seeking and job filling requests, more than 95% of them by mail and phone, come in to Miss Winters. She matches qualifications with requirements and arranges to have the interested persons meet. With few exceptions the only applicants she sees are local residents and only four per cent of Graphic's business is done in Cincinnati. She maintains a mailing list of 20,000 to 25,000 employers to whom she mails bi-monthly bulletins listing 30 or more available applicants. A sketch of qualifications and salaries desired, usually from $6000 to $15,000, are included in the bulletins. If a man wants to locate in a particular state, Graphic does a special job of polling every available client in the area.

Graphic Arts Employment Service was started six years ago. It was created and is owned by Lee Augustine, vice president in charge of sales, Printing Machinery Co., but it was pioneered and is managed by Miss Winters. Starting with a mailing list and a desk load of announcements, she built up a file of some 1000 applicants. Today the company handles an average of 100 jobs a month. The staff consists of Miss Winters and two assistants.

Helen M. Winters, manager, Graphic Arts Employment Service, makes a business of finding jobs for printing executives.

The company began dealing exclusively with executives, foremen and up, but two years ago added journeymen and even beginners. The bulk of the business, about 90%, is still in executive jobs, including at least one company president. Graphic absorbs all costs until the applicant is actually placed. The employee is under obligation to pay, but more and more the employer is taking care of this, reports Miss Winters.

A former secretary, Miss Winters answered a help wanted ad six years ago calling for someone with administrative potential who wanted to run an office. Thus, she began her career with Graphic. Miss Winters, 31, is a native of Cincinnati.

Hurletron Press Drive Announced

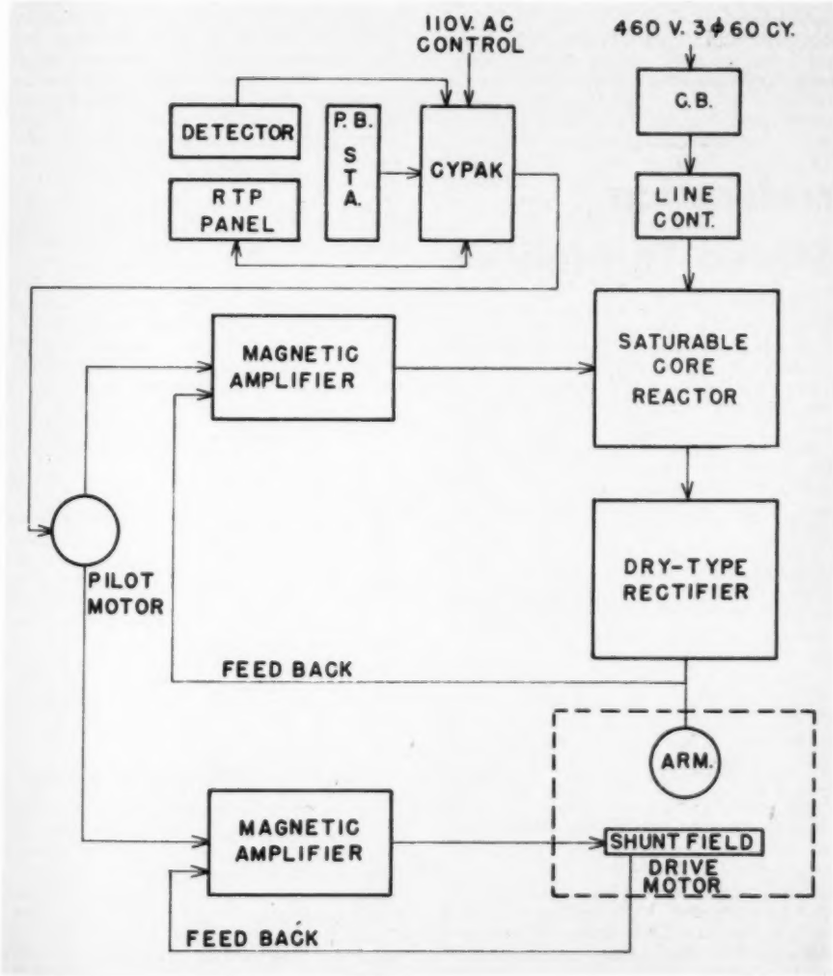
The Electric Eye Equipment Co. announces a new d.c. drive for newspaper, publication and rotogravure printing presses. The Electric Eye Equipment Co. states it has taken advantage of new development in industrial controls and power conversion to present to the industry a press drive which embodies all the advantages of d.c. unit drives and has added important new features.

Electric Eye says authorities in the printing industry have always considered d.c. as the ideal press drive, due to the inherent features of speed control and braking. Company engineers accordingly worked with leaders in the field to develop a press drive modular and compact.

The Hurletron press drive control components are almost entirely static, requiring almost no maintenance. New static type rectifiers, requiring no cooling system are said to provide a trouble free power supply.

In addition to the advantages of present d.c. drives, the company lists the following: (1) Future expansion by means of add-on components; (2) Long-lived, reliable static components make downtime risk practically nil; (3) Automatic acceleration to any adjustable preset running speed; automatic deceleration to any pre-set adjustable slow speed; (4) Compactness of control; (5) Static components all but eliminate maintenance; (6) Simple circuitry, easy for plant personnel; (7) Static rectifier cannot "arc back"; (8) Control circuits (110 v.) to press stations, detectors, etc., and (9) Motors and control components made by nationally recognized manufacturer.

The Electric Eye Equipment Co. announces it maintains a service organization of trained engineers for the servicing and placement of the press drive, as well as maintaining a training school, for personnel of plants installing the equipment. Circle No. 279 on Reader Service Card.



Block diagram showing component parts of Electric Eye Equipment Co.'s Hurletron drive for newspaper, publication and rotogravure printing presses.

M-G-D Acquires Mercury

A contract for the acquisition of Mercury Engineering Corp., Milwaukee, Wis., has been entered into by Miehle-Goss-Dexter, Inc., John E. Eddy, chairman, announced recently. Mercury stockholders will receive shares of M-G-D stock in the transaction. The Milwaukee company, founded in 1934, manufactures and sells machinery for packaging purposes.

Mercury sales in 1957 approximated $3.75 million, according to J. Robert Baumgartner, president. The plant employs about 200 people. Mercury will be operated by its present management as a wholly owned subsidiary of M-G-D, reports Eddy. The addition of Mercury's line of web fed machinery for carton and packaging expands and further diversifies M-G-D Graphic Arts products, he said.

Graphic Arts Courses

Columbia University has announced its list of Graphic Arts courses offered in the spring semester which begins Feb. 5, 1958. Courses include: Fundamentals of printing, wood engraving, lithography, etching, color in industry, book design and production, magazine design and production, calligraphy, creative design, layout in advertising, and hand bookbinding. Further particulars may be obtained from the Office of University Admissions, Columbia University, 116th St. and Broadway, New York 27, N. Y.

Bahnson Sponsors Programs

Two education programs for maintenance engineering personnel will be held at the Hotel Robert E. Lee, Winston-Salem, N. C., starting Mar. 3 and Mar. 10, it was announced by the Bahnson Company. Productive-Preventive Maintenance will be the theme of the meetings. The programs are duplicates so that all maintenance personnel from an organization can attend without hampering plant operation. Direct inquiries to Frederick Boxall, Bahnson Company, Box 367, Winston-Salem, N. C.

Leave for African Safari

Edgar A. Mills, jr., president of Eastern Newspaper Supply, Inc., and Mrs. Mills, will leave early in February for an extensive trip. Included in the itinerary will be participation in an African safari. Mills was in attendance at the recent Great Lakes Mechanical Conference in Indianapolis, Ind. Incidentally, his company has been represented at all of the last 10 conferences.

Packless Stereo Mat Use Grows As Reported at Great Lakes Conference

Electronic counter, TTS production analysis, other developments • By MacD. SINCLAIR and E. H. OWEN

An appeal for accelerating improvement in the newspaper stereotype as well as associated mechanical departments was made at the recent Great Lakes Mechanical Conference, Indianapolis, Ind., Jan. 12 to 14 inclusive. The appeal was made in the light of introduction of packless stereotype mats which are gradually increasing in use. When molded, packless mats do not provide as much depth as hand packed mats in the non-printing areas. With this reduced depth certain modifications must be made in composing and press adjustments.

Other important subjects discussed at the conference was an address on an investigation into the means for obtaining greater printing mileage in stereo plates, investigation of form elements by ANPA Research Laboratory, analysis of production on TTS operated linecasting machines and the use of a new panchromatic paper for r.o.p. color plates.

Approx. 800 persons were present during conference days. This was reported to be the largest Great Lakes conference yet held.

Exhibits of equipment and supplies by manufacturers and suppliers occupied 41 booths.

The 1959 conference will be held at Hotel Statler, Detroit, Jan. 18-20 inclusive.

Officers-Directors Elected

The newly elected officers with identification are shown in the picture in this issue.

The new directors are: Harold Gaddis, Composing Supt., Anderson (Ind.) Newspapers, Inc.; Lawrence Brune, Press-stereo Foreman, Hamilton (O.) *Journal-News;* William Tookey, Stereo Foreman, Flint (Mich.) *Journal;* Virgil V. Perkins, Composing Supt., Indianapolis (Ind.) *Times;* Edwin Koffke, Mail Supt., Milwaukee *Journal,* and John E. Innis, Stereo Foreman, Indianapolis (Ind.) *Star-News.*

Makes Appeal for Acceleration Of Improved Stereo Techniques

The Stereotype session of the Great Lakes Mechanical Conference held at Hotel Claypool, Indianapolis, Ind., on Monday, January 13 was one of the best stereotype sessions ever held at any of the mechanical conferences attended by *Printing Equipment Engineer.* Among the valuable papers delivered was one on *Improved Autoplate Cooling Controls.* Another was a progress report on studies being conducted to improve the wear resistance of the stereotype plate in a printing press. Another address consisted of an appeal to make it possible for the stereotyper to make a better plate. Yet another address was entitled *ANPA Looks at Stereotyping.*

For this session, Ray Patridge, stereotype superintendent of *Ohio State Journal,* Columbus, Ohio, was chairman and Ferd Mier, stereotype superintendent, Detroit (Mich.) *Free Press,* served as co-chairman.

For the original report on Mier's *Improved Autoplate Cooling Controls* delivered at the Pacific Newspaper Mechanical Conference see *Printing Equipment Engineer,* Page 53, October 1957 issue.

As the result of experience with the improved cooling system in the Detroit *Free Press* plant, Mier was enabled to report the benefits which have accrued since installation of the system. He said: "Controlwise we gained all that had been anticipated. Plates contracted evenly from the segment ring side to saw side. We were not long flattening a plate that was a snug fit on the press cylinder on the segment end and a loose fit on the saw end. Surface temperatures of the plate coming from the casting box varied so slightly that subsequent contraction after shaving is uniform at any point on the plate.

The benefits that were unexpectedly gained are: "Decreased porosity at the saw end of the plate; in some instances this decrease amounts to 50%. Increased productivity of 8% to 10% in the casting operation. First casts from the mat are now usually good. Previously they were returned to the pot. Increased plate life in the pressroom.

"We are still doing research on the workings of this installation and it will be another year before our results will be complete," he concluded.

Lew S. Somers, president of Imperial Type Metal Co., presented a progress report on the studies which his company has been making to increase the wear resistance of the stereotype plate in the printing press.

Preliminary to getting into the discussion, Somers asserted that metal never wears out. The constituency, however, does change with use.

He showed by means of a number of micro photographs the effects of cooling stereotype plates too fast and also at the proper cooling rate in order to provide a wear resistant printing surface on the plate.

The studies have been conducted in conjunction with the Detroit *Free Press* and the Chicago *Tribune.*

The specimens submitted by these two papers enabled Imperial Type Metal Co. to report to customers the condition of the metal looking to maximum mileage on stereotype plates.

He explained that in the case of samples received from two plants the chemical analysis was identical but the physical conditions were different.

The slides exhibited showed the improper and the ideal state of metal near the printing surface. In the ideal state the tin and antimony element in the metal forms cubes near the printing surface. If the plate is cooled too rapidly the cubes do not lie near the face. The cubical structure of the tin and antimony is of value only on the printing face with respect to the objective to be reached in the study being made. Somers stated that after the studies have been completed the results will be reported to the industry for the improvement of newspaper printing.

Check Pyrometers

George Fuller, recently retired stereotype superintendent of the Cleveland (Ohio) *Press,* stated that one of the sources of difficulty in securing good stereotype plates was in the use of defective pyrometers. Pyrometers should be checked with a reliable thermometer at frequent periods and reset to coincide with the temperature indicated in the thermometer. He stated he had seen pyrometers which were off calibration as much as 50%.

Transition from Art to Science

Vernon R. Spitaleri, executive vice president of Sta-Hi Corporation, discussed with slides Sta-Hi's new twin plate router.

Referring to the previous discussion which had taken place on packless mats, Spitaleri went into the subject for better controls for the entire stereotype plate manufacturing operation. He stated it is time to finish up the process of trans-

ferring stereotype operations from an art into a science. Too much is unknown about the process itself. Among the essential elements which should be controlled are accurate forms, the elimination of beat up press blankets, and soupy ink. It was Spitaleri's opinion that the most difficult operation in the newspaper plant is that of converting forms into plates. The many variables existing in the process are caused by no controls or little or no maintenance. There are too many unknown variables in flongs and other materials used in the process.

"Into this rosy picture," he said, "we interject packless mats. Management believes that all we have to do is to buy packless mats and there you are. The stereotyper is in the middle. He works his heart out trying to make the packless mat produce good results." As a preliminary, this speaker believes all newspapers should try to get cleaned up in their operations with standard mats.

Spitaleri announced that Sta-Hi Corporation has not yet adopted any changes for its formers respecting their use with packless mats. "Simply because as yet we don't know." He said that as developments occur the company will keep the industry informed.

Ferd Mier stated that the Detroit *Free Press* has gone to complete use of the packless mats and have employed them exclusively during the past five months. He stated the mat he is using is a hard one and contains 12% moisture.

In response to a query from the floor, Mier stated that such matter as radio composition is reset every seven days.

Checking Quality of Materials In Your Own Plant

Frank J. Stanczak of the ANPA Research Institute Laboratory, Easton, Pa., discussed *Stereotyping Investigations* at *ANPA's Research Institute*. These investigations were related to working out a system for checking the quality of materials going into the forms and the quality of the stereotype plate for obtaining best results on the printing press. The system was formulated with the idea that it could be applied to any individual newspaper plant.

More Next Month

Reports of the composing room and non-metropolitan sessions held during the Great Lakes Mechanical Conference in Indianapolis will appear in the March issue of *Printing Equipment Engineer*.

Stanczak stated that the majority of complaints about the quality of newspaper printing appeared to be about smudging in highlight halftone areas. It seems that if a highlight area prints plainly the rest of the picture has a reasonable chance of looking good.

Stanczak said that to control the quality of materials a newspaper must determine its own press requirements as well as stereotype losses or percentage of stereotype reproduction. The press requirement may be determined by choosing sev-

(*Continued on Page* 67)

New Officers of the Great Lakes Newspaper Mechanical Conference are shown above. Left to right: John E. Innis, stereo foreman, Indianapolis *Star-News*, immediate past president; Theodore Gardiner, chief machinist, Indianapolis *Star-News*, vice president; Robert C. Nelson, production manager, Detroit *News*, president; Paul O. Brannon, pressroom superintendent, Cleveland *Press*, vice president; Arthur F. Goetz, composing room superintendent, Milwaukee *Sentinel*, vice president; Don Clark, stereo superintendent, Grand Rapids (Mich.) *Press*, secretary-treasurer. Not present at the time was Ralph Preddy, pressroom superintendent, Detroit *Times*, vice president.

Automated Mailroom is Close

Predictions of things to come could very well have been the theme of the mailroom meeting of the Great Lakes Newspaper Mechanical Conference held last month at Indianapolis. Engineers have now gone beyond the crystal ball in envisioning a completely automatic mailing department and proved it by presenting a detailed description of how it can be accomplished.

It was another step in the direction of mechanization and eventually automation of mailing operations. The system, said H. R. Behr of the newly-created Materials Handling Div., Miehle-Goss-Dexter, Inc., will permit the handling of papers from the press, through bundling machines, by automatic preset controlled bundle count, directly to the delivery trucks.

The mailing session was in charge of Joseph Walker, mailroom superintendent, Cincinnati *Enquirer*, and Edwin Koffke, mailroom superintendent, Milwaukee *Journal*.

An Automatic System

The new M-G-D division now offers an automatic bundle counting and dispatching system and control to handle bundles from mailroom tables to trucks. It entails installation of counter stackers (now being developed), automatic under and overwrappers (also under development), automatic bundle tying machines, and a system of conveyors equipped with deflectors for making sure the bundle reaches the correct loading dock position. Part of this system is now installed at the Chicago *Sun-Times*' new plant.

The entire system would be centrally controlled. It is possible, said Behr, to replace the manual presetting of the bundle counts at the control console by automatic recorded means such as punched cards or punched tapes. The daily truck loading schedule can be prepared a day or hours in advance and then translated into punched cards or tapes.

The mailroom control console can be equipped with card readers or tape recorders. These devices would read out in sequence each recorded truck number, dock position and bundle count. This information would be set up automatically in the counter and sequence control unit for control of the bundle dispatching to the trucks.

He stated: "To keep pace, the printing industry must look at its operations to determine where they lend themselves to automation techniques."

(*Printing Equipment Engineer* will present a more detailed story of the system described by Behr in an early issue.)

Units Under Development

More discussion of automatic mailroom equipment was heard at the meeting. Louis F. Fallon, Wiretyer Corporation, brought the department heads up to date on the development status of his company's equipment line.

The Wiretyer firm is presently working on a unit for applying the bottom wrapper to newspaper bundles. The machine is designed for using returns and overruns as the wrapping means. According to Fallon, they have run the machine at speeds up to 40 bundles per min. It

(*Continued on Page* 66)

Press Supervisors Told of New Counter, Use of Mat Pak

Introduction of an electronic newspaper counting system, pressroom experiences in using Mat Pak, and high speed movies of ink behavior on printing presses were among the highlights of the pressroom meeting of the Indianapolis Great Lakes Mechanical Conference held last month. Presiding at the meeting were Ralph Preddy, pressroom superintendent, Detroit *Times*, and Everett Hall, pressroom superintendent, Detroit *News*.

Radio Corp. of America has developed a multi-conveyor newspaper counter system which was described in detail by S. R. Tomes, manager, RCA's Detroit office. The RCA Multiple Channel Counter-Totalizer System gives continuous and instantaneous readings of the total number of newspapers sent to the mailing room from the pressroom in multiple conveyor plants.

Features of Counting System

The speaker described how the unit provides such features as alarm control signals which are actuated when a predetermined number of papers have been counted (or sub-totals for different editions where these are run simultaneously); push-button conveyor selection, remote indication to critical areas, individual conveyor indicators, and others. He explained how the system is designed with plug-in units and that each installation is tailored to suit specific requirements.

The basic system consists of a master control installed wherever desired and specially designed counting or pickup units which are mounted on any vertical section of the conveyors. Each counter senses the folded edge of each paper and relays a signal to the master unit which shows instant total figures at all times. Remote indicators and individual conveyor totalizers can be added at will to the basic system.

The circuitry is completely transistorized and features premium components and printed circuit sub-assemblies. Power consumption and operating temperature are claimed to be very low. The master control unit is housed in a moisture and dust-free steel cabinet.

Self-checking features are included and arranged to enable periodic tests to be made on the unit. An indicating meter used for testing each channel separately is also arranged to give a continuous indication of the total number of papers per hr.

The individual conveyor inputs are totalized and the over-all output is indicated in units of 10 or 100 depending upon the number of conveyors and their maximum running rate.

An indicator yields alarm-control signals when the predetermined count is reached. An important feature of this device is that settings can be changed during operation.

Power and reset switches are key operated to insure control by authorized personnel only. Alarm and reset signals are indicated by panel-mounted lamps and electro-mechanical interlock circuitry is provided to insure correct operation of the system.

The RCA systems are designed to handle 16 to 96 pages when equipped with standard pickup heads. Minimum space requirement between papers is 1 in. If a kicker sheet is used it must be displaced in such a way that this minimum spacing remains constant at some specific point across the conveyor. The pickup heads are installed at this point.

Experiences with Mat Pak

Difficulties in the South Bend (Ind.) *Tribune's* pressroom from the use of Mat Pak and how they were overcome were outlined by Carl Schafer, pressroom superintendent of that newspaper. He told how they tried everything from heavier roller setting to using different kinds of press packing to reduce down time on the presses caused by having to re-make pages.

When this met with no success they started checking plates and found some places in the printing areas were anywhere from 0.005 in. to 0.012 in. low. Schafer continued: "We also checked the material in the forms on these pages and found the same parts that were low on the stereotype plates were low in the forms. In the non-printing areas on the stereo plates that were printing we found we had as little as 0.012 in. depth. We also found where we had 0.020 in. in the open areas, we were printing clean.

"At this time our press speed was 38,000 papers per hr. Several months ago we increased our press speed to 48,000 per hr. and found we needed a little more depth in some of the open areas. We have compression lockup. Those of you that have under side lockup probably can get by with a little less depth."

It was the speaker's opinion that successful use of Mat Pak is dependent on composing and stereotype departments. Everything in the form, he said, must be type high on solid bases so it will stay type high when the mat is molded. He added the *Tribune* shaves all shell casts to make sure they are all type high and base halftones 0.003 in. over type high. He pointed out they had experienced no trouble from ads set on the Fotosetter. The *Tribune's* engraving department provides from 0.034 in. to 0.041 in. depth in the open areas of ads set on the Fotosetter. They lose about 40% of this depth in molding so that leaves between 0.021 in. and 0.024 in. depth in the open areas of the stereotype plate.

Novel Pajamas—The man in the center of this group is Leroy Schulz, pressroom superintendent, Milwaukee (Wis.) Journal. The people with him are Mr. and Mrs. Everett Hall; Hall is pressroom superintendent of the Detroit *News*. Getting back to Schulz and the pajamas he is wearing, the fabric is white. Reproduced in black on the cloth are sections of newspaper printing. The pajamas were given to Schulz as a Chrismast present by his daughter, Mrs. Richard Larsen. Accompanying the package was this note: "Dear Dad—Merry Christmas. You have been working in it for a long time, now you can sleep in it." This picture was taken at the recent Great Lakes Mechanical Conference in Indianapolis, Ind. Schulz modeled the pajamas for delegates. Where did he get the cap? Schulz made it quickly from a newspaper section while the photographer waited.

Time Saving Reported

The *Tribune* has been using Mat Pak for the past six months on all of its pages. Schafer reported they have had to make over very few pages in the past several months on account of Mat Pak. He claimed a time saving in the stereotype department. He stated: "We are saving 4 min. per page in processing. We are processing an average of 80 mats a day so you can see this means quite a few man hours saved per day and is particularly helpful in peak periods."

The speaker thought that those who are just starting to use Mat Pak will experience less trouble because of the improved quality of the Mat Pak material and also better molding combinations have been found. He added, the *Tribune* is shrinking 15/16 in. on a 30% moisture mat. They are using about the same roller and impression setting as they did when using hand packed mats. Form rollers are set 7/16 in. to the plate and slightly heavier to the drum.

Both two piece and three piece blankets are used. Three piece blankets are made up of two foundation blankets—one 0.070 in. thick and one 0.065 in. thick with a 0.025 in. draw sheet. The press superintendent claimed this combination was providing good printing and he believed, will give more impressions. He added, one unit is packed with this combination that has over 20,000,000 impressions and is still printing well. The two piece blankets consist of 0.070 in. cork and 0.090 in. non-felt.

High speed motion pictures which have enabled the study of ink behavior on the distribution system of

(*Continued on Page* 67)

Engravers Listen to Reports On New Processes and Products

At the Photoengraving session of the Great Lakes Mechanical Conference, Indianapolis, Tuesday, January 14, the Engraving session was held. Vince Currise, photoengraving superintendent of Rockford (Ill.) Newspapers, Inc. was chairman. He was assisted by John F. Dalton, photoengraving superintendent of the Indianapolis (Ind.) *Star-News* as co-chairman.

Progress Report on Fast Etch Zinc

Ebbie Jennison, engraving superintendent, Minneapolis (Minn.) *Star* and *Tribune*, delivered a paper on *Process and Techniques of Powderless Etching on Zinc.*

Jennison stated that the *Star* and *Tribune* has used the VitasolV and Vitaplate process continuously since May 1957. He stated that in his mind, powderless etching on zinc leaves nothing to be desired. However, he didn't want to mislead anyone into thinking that use of the new process is "only a pushbutton operation." The results will only be as good as the operator.

He explained that in his department 22 men are operating on two shifts and turn out an average flats per day and per night. A big share of the work is combination plates for the department stores.

Two Chemco etching machines are in use.

Jennison stated: "In printing we use cold top enamel. After the plate is printed and developed it is put into a hardener solution which is made by dissolving 3 oz. of chromic acid in 1 gal. of water. This solution is kept in a tray and the plate is immersed for about 15 sec. or until the cold top enamel changes to a darker color.

"The plates are scummed with a solution composed of 12 oz. of hydroxide and 2 oz. of potassium permaganate to 1 gal. of water. The plate is then scummed with a 50% nitric acid solution. This is followed by a liberal flow of a 10% sulfuric acid and swabbed with a sponge.

"The etching operation is conducted at a temperature of 80 deg. and the paddle speed will vary from 450 to 520 r.p.m. Combination plates are etched 12 or 13 min. for an average depth of 0.030 in. On halftones a minimum of 0.0055 in. to 0.006 in. is maintained. Etching time on halftones is 3 min.

"Pimples or dirty bottoms have been very little trouble."

Jennison warned not to let the bath get weak and then try to bring it back with one big charge of acid.

Earl Currise, superintendent engraving department, South Bend (Ind.) *Tribune*, discussed very briefly *Powderless Zinc Etching at the Tribune.*

Photopolymer Plastic Plate For Direct Printing

Dr. W. H. Vinton, manager, New Product Development, Photo Products Dept., E. I. du Pont de Nemours & Co., Inc., discussed *du Pont's Photopolymer Printing Plates.* This was in the nature of a progress report. Vinton explained that in the newspaper field present indications are that early use of photopolymer printing plates in newspaper production may be most attractive in direct printing of ROP color, photocomposed advertising and similar areas where quality considerations and the availability of a photographic negative offer distinct advantages.

The speaker explained current plans are to market three types of plates: (1) A steel-supported plate about 0.050 in. thick with 0.030 in. relief, (2) Steel-supported plate about 0.060 in. thick with 0.040 in. relief and (3) Aluminum-supported plate about 0.152 in. thick with 0.040 in. relief. The first two are flexible and are designed for rotary printing by suitable press mounting. The 0.152 in. plate is rigid for use in flatbed printing. Plate sizes up to 20 in. by 24 in. are contemplated initially.

As was explained on Page 32 of the November 1957 issue of *Printing Equipment Engineer,* the exposure and washout steps in making the plate can be completed in about 15 min.

Vinton added a little extra information about the processing and properties of the plate by stating: "This plastic is sensitive to ultraviolet light and is hardened by the direct action of such light. Sufficient ultraviolet exposure causes the hardening to occur through the *entire thickness of the plate.* Room light will not cause significant exposure of the plate, but sunlight with its appreciable quality of ultraviolet would be harmful."

He stated further: "It appears that ideal halftone negatives for this process are similar but not identical to those used in lithography. At present both 65 line and 85 line screen rulings have been used in the photographs without difficulty."

As stated above, Dr. Vinton said sufficient ultraviolet exposure causes hardening to occur through the entire thickness of the plastic. He also explained there is a slight slope from horizontal in the structure of the

Great Lakes Pictures

(All names read from left to right)

1—Joseph Walker, mailroom superintendent, Cincinnati *Enquirer;* Golden L. Faris, production manager, Indianapolis *Star-News;* Edward Koffke, mailroom superintendent, Milwaukee *Journal.*

2—Erv Arpe, Morrison Company; Ben Whiteacre, composing room superintendent, Kokomo (Ind.) *Tribune;* George E. Stevenson, Vandercook & Sons, Inc.

3—Arnold Imshaug, Alico, Incorporated; Robert May, Beveridge Paper Co.

4—Robert Knight, pressroom superintendent, Indianapolis *Star-News;* Roy Coates, pressroom superintendent, Grand Rapids (Mich.) *Press.*

5—Frank J. Stanczak, ANPA Research Institute, Easton, Pa.; Chesley F. Carlson, Chesley F. Carlson Co.

halftone dot. This might be explained in another way by stating the shape of the dot is like the frustum of a cone—that is, the top is flat at the printing surface of the dot and tapering more broadly at an angle between the interstices for the depth of the "etching."

Vinton also announced that the Du Pont Photo Products Dept. has established a Printing Development Laboratory which will provide technical facilities for the development and testing of the photopolymer printing plate and other developments aimed at the printing industry.

Improved Method for Producing ROP Color Plates

Originally, Dr. C. A. Horton, Research Laboratories, Eastman Kodak Co., was scheduled to deliver a paper on *The Use of Color Negatives in ROP Color Printing.* Shortly before the conference he became indisposed and J. W. Gosling substituted for him. The paper was prepared jointly by J. W. Gosling and C. A. Horton.

Gosling discussed the advantages of negative color over positive color films for newspaper reproduction and explained in technical detail the principles of photographic correction through masking techniques. The mechanism of color correction in Kodak Ektacolor Film was described as well as the properties of an experimental panchromatic paper (Kind 1439). He presented recommendations for a reproduction system using these materials and designed specifically for ROP color printing.

To justify development of the materials and methods used, Gosling explained: "In black and white printing, the problem of color correction does not arise because black ink absorbs the incident light equally throughout the visible range. Unfortunately, color inks are not so obliging. The cyan ink absorbs much

(*Continued on Page* 68)

Among Those in Indianapolis

(All names read from left to right)

1—Keith LaFountaine, mechanical superintendent, Royal Oak (Mich.) *Daily Tribune;* Harold Hoots, production manager, Lindsay-Schaub Newspapers, Inc., Decatur, Ill.; W. J. Meakes, mechanical superintendent, Sudbury (Ont., Can.) *Daily Star.*

2—Lawrence Parker, mechanical superintendent, Stephen Hendricks, pressman, and Norman Thurston, general manager, all of Shelbyville (Ind.) *News.*

3—Roy Gates, press-stereo foreman, Danville (Ill.) *Commercial-News;* Clarence Kemnitz, press-stereo foreman, Beloit (Wis.) *Daily News;* V. G. Currise, engraving superintendent, Winnebago Newspapers, Inc., Rockford, Ill.; Bernard Bradley, mechanical superintendent, Kankakee (Ill.) *Daily Journal.*

4—Gary H. Rutledge, Western Newspaper Union; James H. Kirtley, publisher, and Charles D. Rask, production manager, *Tri County Truth,* Churubusco, Ind.

5—Eston H. Smith, Shaffstall Equipment Inc.; Ed Huston, machinist, Ray Brown, publisher, and Kenneth L. Rager, pressroom superintendent, all of Columbus (Ind.) *Evening Republican.*

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For More Information Circle 116 on Reader Service Card

Matrix Damage, Mold Cooling And Slug Ejection Analyzed

An interesting and informative Machinists' session was held immediately following the opening of the Great Lakes Mechanical Conference on Sunday morning, January 12, Indianapolis, Ind. Vic M. Anderson, chief machinist of the London (Ont.) *Free Press* functioned as chairman. He was assisted by Ted Gardiner, chief machinist of the Indianapolis (Ind.) *Star-News*, as co-chairman.

The Machinist and the New Processes was assigned to Carl Smith, instructor of linecasting and phototypesetting machines for the Intl. Typographical Union Training Center, Indianapolis. Smith discussed the facilities available at the school particularly with respect to care and operation of phototypesetting machines. He commented that those coming to the school "now work with light rather than with hot metal." Smith stressed the importance of composing machine maintenance.

Following Smith's address there was some discussion about schools where instruction regarding phototypesetting machines is available. Just at the present, it seems that the ITU school is the only one where such instruction can be obtained.

William Mulroy, Mergenthaler Linotype Co., suggested that those interested in phototypesetting could take the basic RCA courses. Electronics is entering into use of phototypesetting machines and anyone who expects to operate or care for such machines should take such instruction before actually starting to learn about the phototypesetting machine itself.

Everett C. Miller, Star Parts, Inc., suggested obtaining the three volume set of *Basic Electronics* which had been prepared especially for the Navy.

Cause and Prevention of Matrix Damage

George Bolton, chief machinist, South Bend (Ind.) *Tribune*, discussed a paper on *Cause and Prevention of Matrix Damage in Linecasting Machines*. Bolton traced movement of a matrix through the entire travel cycle of a line composing machine from the time the matrix is released from the magazine through the various transfer channels, the casting operation and the return path through the distributor until the matrix again has been deposited in its own channel in the magazine. He mentioned that if any abnormal contact of the matrix in the normal travel cycle interfered the matrix certainly would be damaged.

Bolton mentioned briefly that he has done away with star wheel friction in the assembler. This has been accomplishd by loading the short finger on the lefthand side of the assembler slide with a spring and plate and adjustable sliding means for the finger to move with a yielding resistance as the matrix enters the assembler. In other words, the finger takes up the shock of the impact of the matrix as it is deposited in the assembler. Specifically, he mentioned that the star wheel tension (in case it is used) must be just as strong as the tension of the assembler slide brake.

In particular, when setting the assembler chute finger, he uses a capital W matrix and adjusts the assembler chute deflecting plate downwardly just enough to slow the motion of the matrix as it contacts the chute plate. The prongs of the plate should be set up just high enough to let the top of the matrix turn in an arc of a circle so as to permit entering the assembling elevator in an upright position just inside the assembling elevator gate pawls.

He stressed importance of frictionless transfer of the matrix from the first to the second elevator.

He also stressed lockup of the matrix line with the mold aligning grooves. The entire face of the mold must be kept free of metal adhesions because it makes for poor alignment of matrices. If the front matrix-mold lineup is not parallel the maladjustment will help create hairlines in the matrices by not allowing them to space out properly during justification.

He stressed there should be about 1/16 in. space between the bottom of the matrices and the top of the

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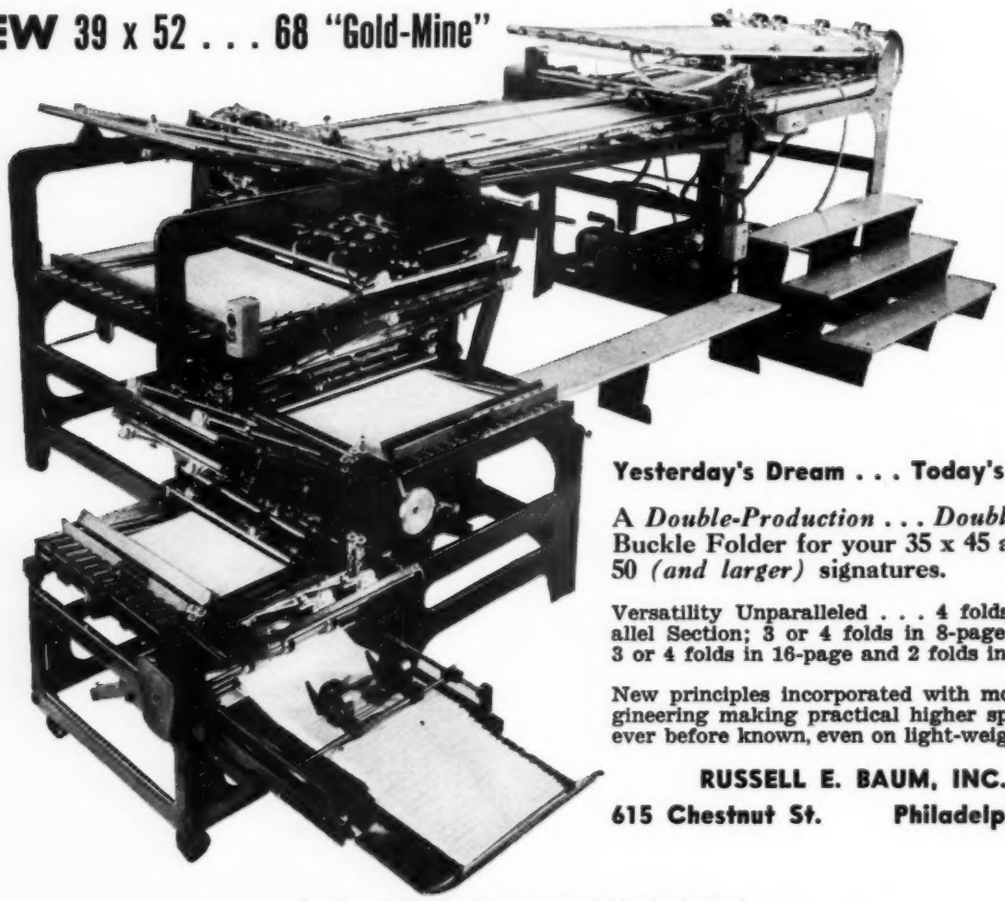

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Newspapermen Attending Great Lakes Meeting—Left to right: George V. Murray, mailroom superintendent, Detroit *Free Press;* H. R. Behr, Goss Printing Press Co.; Harry Case, business manager, Kenton (O.) *Times;* Jack Barnes, assistant business manager, Elwood (Ind.) *Call Leader;* Joseph Holan, chief engineer, Al Stohlman, stereo superintendent, Cleveland *Press.*

distributor channel entrance so as to prevent entanglement of the matrices with the entrance partitions when released by the distributor bar.

Question and Answer Period

Someone from the floor wanted to know how to compensate for wear in the mold slide on an old machine. Both William Mulroy of Mergenthaler Linotype Co. and Ted Gardiner said that in their experiences they had not found either a mold slide or the ways in the machine column get very much wear and that this should be no problem when adjusting the mold slide at the time of applying new locking studs and bushings.

A question from the floor was related to the dropping of matrices on a cement floor which in turn caused perhaps matrix cell damage. The only suggestion advanced here was that the floor under the machines should be of hard wood. In any well regulated plant, matrices do occasionally fly out of the assembler or through careless handling do drop on the floor.

The question of damage to spacebands by matrices came up. It was the consensus that matrices cause metal buildup on the spaceband sleeve. The answer was that the justification and casting lockup of the matrix line should be adjusted.

One Cause of Matrix Hairlines

During the discussion it was suggested that an obscure but damaging cause for matrix hairlines was in the lower ends of the assembler entrance guides. The lower ends of the guides, of course, should be curved slightly to avoid friction or rubbing action of the matrix side walls when contacting the guide. The lower end rear of the guide should be cut away or notched so the guide cannot damage the side walls of the matrix.

For a brief period during the discussion between the floor and the speakers' panel it was stressed that one or both of the vise jaws might be out of line, which in turn lets the matrices fan out during the justification and casting operations. Bolton suggested the vise jaws be closed and a slug cast to determine if there would be fins or whiskers present on the front end of the slug and mold. In case the fins are present the vise jaws are out of line.

In the discussion regarding correct height of the assembling elevator in relation to the assembler star wheel, the ideal condition is that when a spoke of the star wheel is in horizontal position the matrix along with the momentum of the matrix itself could cause the matrix to strike a little below the center of the matrix. The height of the assembling elevator in relation to the star wheel as mentioned above is regulated by adding to or dressing off the lefthand side of the assembler slide brake releasing lever itself.

(*Continued on Page* 69)

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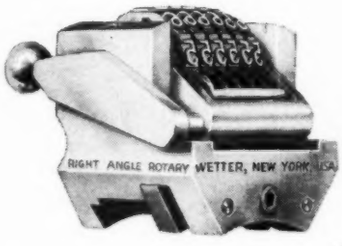

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PATENTS

For The GRAPHIC ARTS

Covering patents issued November 5, 12, 19 and 26.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc. presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. *Printing Equipment Engineer* is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Platemaking:

MAKING PLATES OF THERMO-ACTIVE MATERIAL

Pattern plates are formed in a mold by applying heat to the material in the mold. This material is cured under heat for a defined time, then removed while hot and held between two flat surfaces until cool. Patent 2,812,549 by Richard T. Wall, assigned to CSW Plastic Types, Inc.

APPARATUS AND METHOD FOR CURVED ELECTROTYPES

A cylindrical drum is used for receiving an electrotype shell on its interior surface. After applying backing material to the shell, the drum is rotated to apply pressure on the backing at selected areas. The pressure is so applied as to produce a close helical condensed pathway throughout the backing surface. Patent 2,814,089 by Homer L. Bishop, assigned to Patton Manufacturing Co., Inc.

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Printing Presses:

INKING MECHANISM FOR PRINTING MACHINES

Ink motion drive couplings align automatically, operate silently, and are non-hazardous. This is due to the absence of any projecting clutch operating elements. Patent 2,811,919 by Charles A. Harless, assigned to R. Hoe & Co., Inc.

REGISTERING DRIVE FOR A WEB

The object here is to retain the benefits of the infinitely variable drive while reducing drift and other disadvantages. A primary change gear box and a running gear register are used with the drive to feed a corrective component to the correction feed in shaft. Useful for printing presses leading to a punch press for severing into sheets. Patent 2,812,938 by Lawrence H. Haskin, Jr. and Morris Sorkin, assigned to Champlain Company, Inc.

MASTER SHEET CLAMP FOR PRINTING MACHINES

This clamping mechanism includes a pair of sheet grippers mounted on the master cylinder and a novel biasing means which acts on the grippers individually. By this simple arrangement sheet may be positioned or replaced without disturbing other sheets and with little time and effort. Patent 2,813,482 by Lester F. Mitchell and Donald B. Brewster, assigned to Addressograph-Multigraph Corporation.

INKING MECHANISMS FOR PRINTING MACHINES

An ink trough positioned above an ink pump, a port and perforated plate interposed between trough and inking mechanism, together with suitable discharge ports, provide a mechanism which is effective for keeping lubricant separated from an ink supply. Patent 2,813,485 by Charles A. Harless, assigned to R. Hoe & Co., Inc.

INK LEVEL CONTROL MECHANISM

This automatic fountain control for a printing press minimizes "down time" and assures constant color by maintaining the ink level constant at a de-

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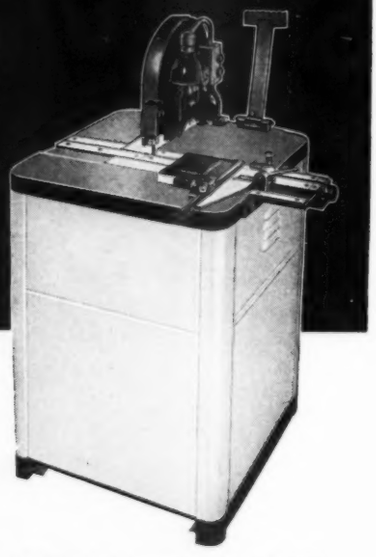

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BOTH MODELS occupy only 26" x 26" floor space.

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sired height. A novel strainer prevents clogging of the mechanism. Device may be attached to existing fountains. Patent 2,813,538 by Andrew A. Di Genova, assigned to Miehle-Goss-Dexter, Inc.

PRINTING PRESSES WITH ADDED COLOR COUPLES

Maximum flexibility is the object of this invention, which has, in addition to the main printing units, added color printing couples. The drive arrangement permits the couples to be driven with either folder as a group of four, or one, two, or three of them may be driven with one folder and the remainder with the other, permitting variable placement of the color among sections, etc. Patent 2,813,713 by Arthur Dressel and Emory W. Worthington, assigned to R. Hoe & Co., Inc.

PRINTING MACHINES

A pulling-mark for a flat-bed or offset printing machine has a pulling bar, a pulling head carrying a roller, and an upwardly and downwardly displaceable shaft located transversely of the direction of movement of a paper sheet. The pulling movement of the mechanism is designed to align sheets of paper being fed to a machine. Patent 2,814,489 by Erich Gericke.

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Feeding, Folding, Delivery:

SHEET FEEDING APPARATUS

A movable suction device seizes and feeds sheet to a press from the lower side of a pile of sheets. The arrangement includes a blower to facilitate separation of the sheets and assures increased safety. Patent 2,812,178 by Sven J. H. Hagren, assigned to Aktiebolaget Dux.

SHEET SEPARATING MACHINES

This invention provides improvements for machines such as that of U. S. patent 2,761,679. A pair of devices on the sub frame detect if a second sheet adheres to a top sheet as it is elevated by suction grippers and operates a warning device or stops the separation of further sheets. Patent 2,812,941 by George W. Tebbs, assigned to Headley T. Backhouse.

SHEET SEPARATING MACHINES

This is a continuation of patent 2,812,941. The sheet forwarding lifters move upwardly from the pile with the sheet and operating means lift the detecting feeler out of the sheet's upward path. Patent 2,812,942 by George W. Tebbs, assigned to Headley T. Backhouse.

SHEET FEEDING AND FOLDING DEVICE

This invention is an improvement on the machine of U. S. patent 2,766,040. It automatically separates and advances to the folding rollers one sheet at a time, using one friction wheel to drive the roller from power operated means. It is incorporated on the paper table and may be added to existing machines. Patent 2,813,714 by William W. Herrick, assigned to Pitney-Bowes, Inc.

VARIABLE SIZE FOLDING MACHINES

The circumferential speed of a roll or primary cylinder for a variable size paper folding machine is maintained for all ranges of products, synchronous with the speed of the web as delivered from a printing machine, without the use of a compensating mechanism. Patent 2,814,484 by Anton R. Stobb and William H. Miles; Miles' interest assigned to Strachan & Henshaw Ltd.

WEB FEEDING APPARATUS

By means of a positively driven rubber roll and an eccentrically mounted idler roll, the pressure applied to webs passing through the rolls is determined by a sensing arm having one end secured to the shaft which controls the eccentricity of idler roll and the other end arranged to detect the tension in the web. A constant tension is maintained on web. Patent 2,814,486 by Grey M. Gurley and Fred M. Carroll, assigned to International Business Machines Corp.

Clear sharp lines and dots, clean bottoms and durability are the measures of good zinc engravings—the kind provided by the three Imperial Zincs.

Imperial, originators of the Vitaplate zinc alloy and VitasolV etchant, the perfect team for one-bath, one-bite machine etching of combination flats also provides Vitaplate for conventional zinc etching. Imperial also supplies Duraplate for long press runs, heavy mat production and carton printing and Imperial Regular for usual zinc applications. Give your customers the BEST, order one of these three Imperial Zincs.

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IMPERIAL TYPE METAL COMPANY

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*The use of VitasolV comes within the limits of the Dow Patents.

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PNEUMATIC WEB GUIDE

Fluid discharge type detectors are used for developing fluid pressure signals, the magnitudes of which are representative of the positional relation between the detector and the edge of a traveling web. In case of variation in the pressure of fluid to detector, a suitable signal will be given. Patent 2,814,487 by Russell J. Medkeff, assigned to Askania Regulator Co.

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Miscellaneous:

MULTIPLE COPY TRANSFER PROCESS AND APPARATUS

A single electrostatic latent image is used for the formation of a plurality of prints. This is accomplished by a series of steps in which an image body is transferred, by use of a mirror image, to a transfer web and back to the original image bearing surface without intermediate separation of the two surfaces. Patent 2,812,709 by Robert W. Gundlach, assigned to The Haloid Company.

PATENT SEARCHES

For Patent Research in the U.S. Patent Office, or a prompt estimate on any type of search, write

INVENTION, INC.

Munsey Bldg., Washington, D.C.

New Era To Build—Horace C. Lockwood, president, New Era Mfg. Co., breaks ground for the erection of a new plant and offices in Hawthorne, N. J. Shown at the ceremony are, left to right, C. Richard Fairlamb, treasurer, New Era; Walter Powers, contractor; Louis Bay, mayor, Hawthorne, N. J.; Charles Elton, contractor; and Joseph E. Morris, vice president, New Era. The move will increase operational area approx. 50%. Completion is expected in six months.

Morrill Opens New Plant

Geo. H. Morrill Co., Div. Sun Chemical Corp., has announced the opening of a new distributing plant at 3600 Spring Garden St., Greensboro, N. C. R. W. Dando, general manager, stated the new facilities will enable Morrill to deliver news black and ROP color inks in either tank truck or drums to publishers in Virginia, West Virginia, North Carolina, South Carolina and Georgia. Operation of the plant will be under the supervision of J. H. Feldkamp, Southeastern manager; Stan Southard, chief chemist, and R. W. Stoker, Southern sales representative.

LNA Changes Address

Lithographers National Assoc., Inc. has moved its executive office from New York, N. Y. to 1025 Connecticut Ave., N. W., Washington 6, D. C. The Eastern office is located at 597 Fifth Ave., New York 17, N. Y., and the Western office at 127 N. Dearborn St., Chicago 2, Ill. Oscar Whitehouse is executive director of LNA.

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Business Forecast Released by Corlett

Goss Company, Div. Miehle-Goss-Dexter, Inc., expects to ship the greatest volume of printing equipment in its history in 1958, reports Robert C. Corlett, president, in his recent business forecast

Robert C. Corlett, president, Goss Company, Div. Miehle-Goss-Dexter, Inc., reports that Goss expects record sales in 1958.

statement. Earnings are not expected to parallel the rise in sales, due to engineering and research expenses, but they should be up from 1957, he said.

New products will represent a substantial portion of 1958 shipments, according to Corlett. In 1957 there was an immediate sales response to four new presses and a new 128 page folder, he added. Corlett went on to say that the major problem facing the company in 1958 is that of continuing to meet customers' needs. According to the report, three aims of Goss for 1958 are: (1) Continued replacement and improvement of manufacturing facilities; (2) Extensive research program tailored to meet changing needs of both large and small users, and (3) Maintenance of an organization which can serve publishers quickly and efficiently.

Fairchild Graphic Buys Teletypesetter

Purchase of the assets of Teletypesetter Corporation was announced recently by Fairchild Graphic Equipment, Inc. The purchase includes the inventory and tools of Teletypesetter and provides for temporary use of its Chicago plant and personnel until operations can be integrated with the Graphic operation, said J. A. V. Hyatt, vice president and general manager, Graphic. Hyatt added that his company is taking all steps necessary to insure continued service to Teletypesetter customers.

The stock of Teletypesetter Corporation is owned by Teletype Corporation, Sub. Western Electric Co., Inc., and by Gannet Company, Inc., which operates the Gannet organization of newspapers, radio and television stations. Fairchild Graphic is a wholly owned subsidiary of Fairchild Camera and Instrument Corp. Hyatt described Teletypesetter as highly compatible with Fairchild Graphic, which produces, markets and services electronic photoengravers. Teletypesetter products include specialized equipment for the automation of typesetting and address plate embossing machines that are normally activated from manually operated keyboards.

Western Electric, and its parent, American Telephone and Telegraph Co. had been ordered to divest themselves of the business being carried on by Teletypesetter Corporation by an anti-trust consent decree of Jan. 24, 1956. Court approval by Fairchild, as purchaser of Teletypesetter's assets, was given in December on consent of the Justice Department.

Linotype to Build Long Island Plant

Mergenthaler Lintotype Co. announced recently that it would keep its Linotype-Davidson Div. on Long Island within 50 mi. of New York, N. Y. The decision was based on consideration for the welfare of its employees as well as economic factors. Actual site for the new plant has not yet been selected. The Matrix Division will remain at Mergenthaler's present Brooklyn location as will its executive, administrative, sales and research functions. Employees adversely affected by the move will be given severance benefits.

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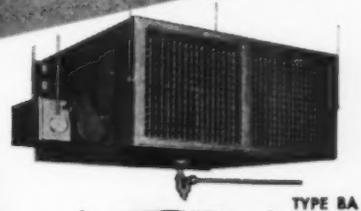
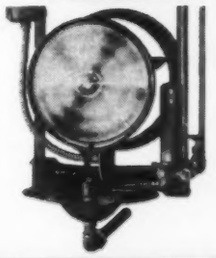


TYPE BA

TYPE E



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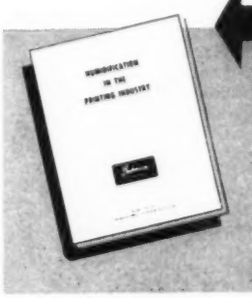

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George Dively Presents 1958 Business Outlook

General business in the closing months of 1957 was characterized by a definite loss of momentum, according to George S. Dively, chairman and president, Harris-Intertype Corporation, in his 1958 Outlook report. Printing and publishing, he went on to say, as "the service industry to all industry," usually follows the pattern established by business in general. However, he added, more than half of the printing and publishing industry's revenue is derived from advertising, which ordinarily benefits from a competitive marketing economy. It can be expected that 1958 will be a highly competitive year, Dively said. For individual companies in the printing industry, he continued, this suggests the desirability of stronger sales efforts and better methods of producing profitable results.

Harris-Intertype will be starting its first calendar year after the merger of Harris-Seybold Company and Intertype Corporation. The company's enlarged operations are being carried out on a decentralized basis which gives more responsibility to people close to the scene of action, Dively said. This provides the closest relationship with customer requirements, which is so essential in competitive times, he added. In concluding his Outlook report, Dively said, that during 1958 operating divisions and subsidiaries will be giving major emphasis to effective customer service through close coordination between field offices, manufacturing plants, and engineering departments.

Catalog List Corrections

There are several listing corrections for Vandercook & Sons, Inc. in the yellow index pages of the 1958 Printing Equipment and Supplies Reference Issue. If you wish, you may mark the corrections in your copy of the catalog. They are as follows:

On page 159, under Plate Mounting Systems 1U, add the symbols 1U and 1U4 Type Metal Base.

On page 158, please delete Vandercook & Sons, Inc. as suppliers of Line-up and Register Tables 1P.

On page 169, please delete Vandercook & Sons, Inc. as suppliers of Layout, Line-up, Register and Stripping Tables 2D14.

On page 159, Vandercook & Sons, Inc. should be listed not only with symbol 1LL3 Relief Reproduction Proofing, but also 1LL6 Reproduction Proof Driers.

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...like 800,000 Americans who have been cured of cancer because they went to their doctors in time. To find out how to guard yourself against cancer, write to "Cancer" in care of your local Post Office.
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NO PEERING UNDER

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Seeing exactly what you are doing is the key to accurate, fast outlining and mortising. To get a clear, unobstructed view, the motor and drive of the Carlson Finisher are put *underneath* the table. Plates are placed face up with no locking or blocking needed. You see every line and have perfect control at all times. Work is easier and faster.

When outlining, the cutting tool is raised and the work is moved to the tool, making a perfect vertical cut. The first cut for mortises is pinpointed with the swing-up Locating Pin. The tool is raised through the plate and the mortise is quickly made. In both cases the chips adhere to the dead metal. Cuts right up to live material if necessary.

THE CARLSON FINISHER IS SPECIFICALLY USED FOR MORTISING AND FINISHING BY OVER 150 NEWSPAPERS

Chesley F. Carlson Company

BEN FRANKLIN BUILDING / MINNEAPOLIS 15, MINNESOTA

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Automated Mailrooms

(Continued from Page 53)

is built to fit a missing section of a conveyor table.

Someone in the audience suggested what was really needed was a machine for laying both bottom and top wrappers. Fallon, however, mentioned there are a number of engineering problems which must be solved in developing a unit for handling the top wrapper.

The speaker reported on his company's stuffing machine, also under development. He described it as an inline machine of table height. Engineers, he said, have run it at speeds up to 14,000 inserts per hr.

Reports on Strapping Machine

Features of the Gerrard Model 12 automatic round steel strapping machine developed by Gerrard Steel Strapping Div., U. S. Steel Corp., were described by R. B. Patterson. The machine is available in two sizes. Either machine will handle packages as small as 8 in. wide by 2 in. high. The larger machine will handle packages as large as 26 in. wide by 20 in. high.

Speed of the Gerrard unit is claimed to be up to 24 ties per min. It uses round steel strapping from 14 ga. to 18 ga. Packages which vary in size and shape can be strapped without adjustment to the machine. (See *Printing Equipment Engineer*, May 1957, P. 22, for further details.)

Edes Announces Its Fine Grain Zinc Alloy

At the Great Lakes Mechanical Conference held at Hotel Claypool, Indianapolis, Ind., January 12-14, Edes Manufacturing Co. announced development of a super fine grain zinc alloy which is called TM 100. In combination with the new zinc alloy, Edes has developed Zn 100 which is a special chemical solution for etching the new alloy without powdering.

Manufacturers announce that TM 100 is also an ideal metal for etching by the conventional nitric acid process.

The following claims were announced: One machine operation, one fast bite, one paddle speed, depth controlled automatically by machine setting, combination plates etched in ¼ the time required for conventional etching, no testing chemicals between bites, complete absence of lateral etch and standard cold tops and synthetic resists can be used.

The TM 100 in 16 ga. metal is available in a number of sheet sizes ranging from 14 in. by 34 in. to 24 in. by 36 in. The chemical solution, Zn 100, is available in 5 gal. containers.

Stereo Techniques

(Continued from Page 53)

eral days' reproductions, examining tear sheets, and determining by measurement the depth present in stereotype plates when good and poor printing occurs. Measurements could be made in the mat since there are negligible losses in casting and because mats are much easier to measure.

Typical measurements and remarks based on observation of tear sheets might look like this: The highlight depth in a plate or mat if 0.0016 in. deep would be badly smudged in printing. A depth of 0.0024 in. would be slightly smudged. A depth of 0.0032 in. will print clean or perhaps a depth of 0.0048 in. would be required to print cleanly.

Stanczak presented a formula for arriving at the percentage of stereotype reproduction or depth retention.

Study of Height Variation

He reported that the Research Institute is conducting a study of the effects of height variation on the final plate level. The tests were conducted in cooperation with the Easton (Pa.) *Express* and covered a six day period during which time three forms were selected at random each day. The only specification was that the forms were to contain some ad makeup.

A total of 466 pieces of material were measured in the 18 forms. The average height of the 18 forms was 0.9205 in. The extreme measurements were 0.913 in. and 0.936 in. The average form variation was 0.0105 in.

Pressroom Developments

(Continued from Page 54)

printing presses were shown at the pressroom meeting by Joseph F. Steinbruner, Central District production manager, Interchemical Corporation, Printing Ink Div.

The IPI representative explained that the camera used for making the movies is capable of taking 8000 frames or photos per sec. It is so fast, he said, that a 100 ft reel of film goes through the camera in about 3/10 of a sec. Such high speed photography enables an ink maker to literally stop the motion of spinning ink distribution rollers and to study this motion at his leisure. He can see exactly what happens to ink on rollers at different thicknesses at different speeds.

A description of the Crosfield automatic color register control for newspaper presses was provided by M. L. Priban, sales manager, Cline Electric Mfg. Co. Designed primarily for better register of ROP color, the system includes a photoelectric scanner, a control cubicle, a control panel, and an electric motor.

Some of the claims made for the equipment include: Accurate control at press speeds up to 60,000 i.p.h.; automatic registering after initial makeready; accuracy to plus or minus 0.001 in., and continuous visible mettering and automatic compensating.

Priban explained that Crosfield reg-

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Amsco's electrically welded steel chases, with the smoothly ground joints, are world renowned for their accuracy and durability.

Amsco Aluminum Stereotype Chases are specifically made for operations wherein lightness is a desired factor. Steel insert supports reduces wear to a minimum at the contact points of the foot stick and side wedge screws . . . adding longer service life to the overall aluminum product.

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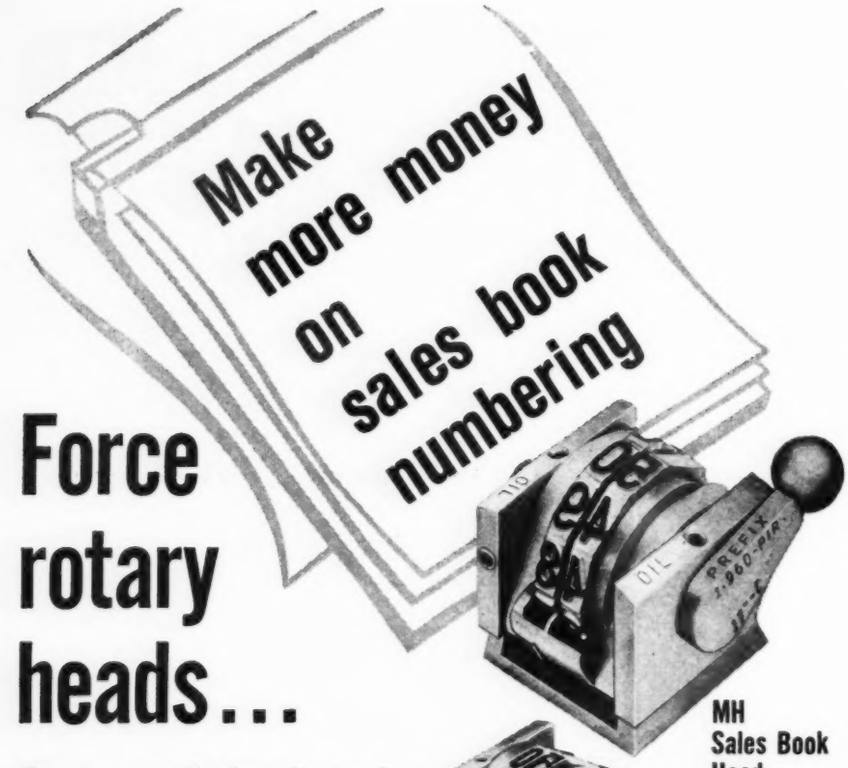
ister controls perform many functions without special register marks. As each reference line, mark or pair of marks passes under the scanner light, the corresponding photocell darkens and transmits a voltage impulse to the input chassis.

These voltages are signaled to meters on the control panel to show the condition of register and to the control circuits which automatically translate the voltages into instructions to the register correcting motors. To correct length register, the compensating rollers or differential gears advance or retard the web by an amount exactly equal to the error. Side register is controlled in a similar way by adjusting the positions of the tilting rollers.

A panel composed of pressroom superintendents participated in the floor discussion which followed the formal part of the meeting's program. Panel members were: Roy Coates, Grand Rapids (Mich.) *Press*; Robert Knight, Indianapolis *Star-News*; Paul Brannon, Cleveland *Press;* and LeRoy Schulz, Milwaukee *Journal.*

Several members of the audience complained about the practice of having to print matched colors and the difficulties encountered. One executive said he thought this could be overcome by explaining to the advertising department that a better job would result if standard colors were used. He added he has sold his newspaper several times on using a color close to that requested.

There was considerable discussion about the use of Dayco color separators on presses. It was pointed out several newspapers have successfully separated colors below the maximum oscillation of the vibrator rollers. Pressroom personnel were cautioned, however, that much is dependent upon the kind of press. A narrower color split is possible on certain presses that cannot be done on other makes. A Dayton Rubber Co. representative present (the company makes the device) advised pressroom superintendents using older presses to request advice on where to position the separator for best service. This entails sending an 8 in. by 10 in. photo of the inker to Dayton Rubber Co., Dayco Div., Dayton 1, O. Engineers of this company will draw in the best position of the device on the bar and return it to the sender. Coates pointed out it was no more difficult to separate yellow and blue than it was to separate red and blue.



Earn more profits for printers of sales and check books. These dependable numbering heads are the product of 81 years of design, manufacture and testing — built to deliver quality impressions hour after hour at high speed. They minimize costly press stops, cut down spoilage, avoid time-consuming resets and reduce costly reruns. For steady production, try Force Rotary Heads on your next run!

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Engravers Hear Reports

(Continued from Page 56)

of the blue and green light, which it should reflect, and the magenta ink absorbs a large fraction of the blue light, whereas it should absorb only the green. These unwanted absorptions result in dark blues and greens, loss of detail in shadow colors, and various changes in hue in the reproduction."

He explained that some of the color subjects which he exhibited on a screen, that is, the separation positives, were prepared on a special experimental panchromatic paper (Kind 1439) which was designed specifically for ROP newspaper reproduction. The spectral sensitivity of the paper to red, green and to blue light was designed to make the best use of the dyes of the negative film. The emulsion is carried on a waterproof support to permit rapid processing and drying of the paper. The support is relatively resistant to dimensional changes so that register of the separations causes no problem and the surface of the paper can be retouched easily.

With respect to the controls for masking, Gosling commented: "Once the correct mask exposure times and development times have been established, they should be held constant for all color negatives except that the exposure time must be varied with variations of an enlargement."

Discussion Notes

In response to a question from the floor, Dr. Vinton stated runs of over 1 million impressions have been made without degradation from the photopolymer plate.

There was considerable discussion about the relative merits of magnesium and zinc alloy plates in molding. It seemed to be the consensus of opinion that under repeated molding with heat and pressure the magnesium plate is more durable. If only one or two molds are required the results from the zinc plates will be satisfactory.

In answer to another question from the floor Jennison stated he re-etches the new zinc alloy for a period of

about 5 sec. to obtain pin point dots in the plate.

Joseph E. McMullen, vice president, Milwaukee (Wis.) *Journal,* stated on his paper the 75 line halftone screen is used for both black and color printing. "We like it," he added.

Machinists' Session

(Continued from Page 60)

In response to a question from the floor, someone wanted to know: Do you shim molds in a six pocket mold disk to trim slugs parallel? This was with reference to side trimming knives trimming the slug for parallelism and body size. The complaint was that if one of the molds is raised at one end, the mold clamping bolt will permit the adjacent mold to be somewhat loose instead of the bolt holding the ends of both molds down tightly. It was suggested that the end of one mold could be raised by the plate under the mold in the pocket. In any event, the amount the mold needs to be raised is very slight.

In response to some discussion from the floor regarding the scraping of the inside faces of the vise jaws, William Mulroy said that all operators and machinists should avoid the use of brass rules to scrape adhering metal from the vise jaws. He asserted that brass working against steel during the cleaning action causes a lapping effect. He also added that vise jaws can be lapped by hand on a block with abrasive or on a true stone if the wear or depressions in the locking faces of the jaws are are not too deep.

You Are Getting a Bargain

George Bolton said that the difference between manual and TTS operation is that on a TTS operated machine you are getting four times as much type and matrices normally wear out twice as fast. In any event, with TTS operation you are getting a bargain.

A viewpoint on the value of old machines in production as against new machines was expressed by Cecil Watkins, mechanical superintendent, Sidney (Ohio) *Daily News.* He feels that it is not a question of how old a machine is but what you get out of it with proper maintenance.

Someone complained from the floor than on 30 pt. and 36 pt. recessed molds equipped with mold cooling blowers, there is a loud cracking noise when the ejector attempts to eject the slug from the mold. This occurs as soon as the mold heats up from repeated casting. Apparently, the inference was that the mold cooling blower could not keep the temperature of the mold down during repeated casting. The immediate answer to the slug twisting effect when the ejecter attempts to eject the slug from the mold was that the ejector blade is not parallel with the mold.

Watkins said he had had this trouble in his plant and since the machine was later equipped with a Mohr saw and a solid 30 pica blade in place of the segmented blade the difficulty with ejection had been eliminated.

An opinion was expressed that mold cooling blowers cannot keep down the temperature of 36 pt. recessed molds during repeated casting.

Anderson stated his head letter machines had been reduced in speed from 8 lines per min. to 5 lines per min. On two deck heads the operator will set the larger lines first and then for the same head will switch mold and magazine to the second deck. In this way the larger point size molds are provided with a cooling period.

Robert S. Czachorski, chief machinist, Grand Rapids (Mich.) *Press,* speculated on alternate large point size recessed molds in the same disk with mold turning segment so that every other slug would cast alternately from the two molds. Czachorski also suggested that in connection with TTS operation it is economical in every respect to buy full matrix fonts not only to reduce the circulating cycle of the matrices but to permit cooling them in sustained operation. This will considerably lengthen the useful life of matrix fonts. It is not economical to buy 1100 matrix short fonts as gainst purchasing 1400 matrix full fonts.

Referring again to the technique of casting large recessed slugs with attendant mold difficulties it was suggested that on machines carrying, for instance, 14 pt., 18 pt., 24 pt., or 36 pt. molds in the disk, that the metal feeder be modified so two pigs will be lowered into the pot simultaneously. The float chain can be passed through a hole to be drilled in the pot cap to accomplish this purpose.

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Super Snap-Set black and colors by Flint
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Gummed Paper Runs

(Continued from Page 43)

under 3 ft. high. The gummed paper will then adjust itself to the atmospheric conditions of the pressroom.

(2) Flat gummed paper is cut true to size and perfectly square. So if each sheet is fed into the press in precisely the same position as the preceding sheets, no water will be picked up on the edges, and the sheets will therefore not stick together. If you do any cutting before the paper is printed, be sure to exercise the same care and precaution.

(3) By running a light impression, stretching of the sheet will be prevented, thus assuring good register and the least chance of curling.

(4) Use the least amount of water possible; the plate will stay clean if a more concentrated amount of acid solution is used.

Printing on Gummed Side

There is no trick to printing on the gummed side of gummed paper. Good results can be obtained by observing the following instructions:

A good grade of glassine ink is generally satisfactory, but it shouldn't be tacky. It should be soft and with a minimum amount of grease. The non-fading characteristic of the color pigment is important when the printing is exposed to bright sunlight. The ink is not absorbed into the gumming, so a good cobalt drier will help. Drying takes place by oxidation and for this reason, a light coat of ink is sufficient.

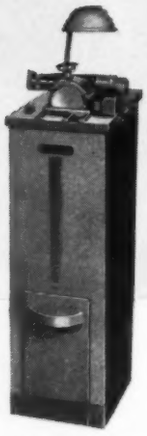
An all-over printed surface will prevent the adhesive from sticking, so leave a few portions of the gummed surface unprinted to allow the gumming to stick when it is moistened. If this cannot be arranged, an unprinted border is sufficient, or a Benday technique can be followed.

Champion Adds Warehouse

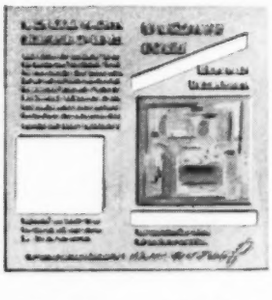
Champion Paper & Fibre Co. has announced that its entire line of printing papers is to be available for distribution from 18 additional warehouse locations in western United States. The new locations are divisions of Blake, Moffitt & Towne, paper distributors on the Pacific Coast, with headquarters in San Francisco, Calif. They are located in six states as follows: San Francisco, Los Angeles, Oakland, Sacramento, Fresno, San Jose, Stockton, San Diego, Long Beach and San Bernardino, Calif.; Seattle, Tacoma and Spokane, Wash.; Portland, Ore.; Boise, Idaho; Reno, Nev.; and Phoenix and Tucson, Ariz. The new locations are in addition to 11 presently servicing Champion customers in the west.

$890.00 gives you the "Ins and Outs" of composing room production.

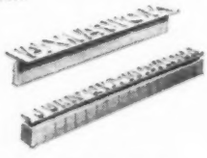
Reduce time for copy changes and corrections on your shell casts to a minimum.



Use the Morrison Router, Mortiser and Type High Planer for your plate corrections — remove unwanted copy with a clean cut mortise or route away dead metal — all with the same machine quickly, safely, accurately with conventional methods.



Use the Morrison Slug Stripper for stripping slug lines to be inserted — strip correction lines or lines for intricate angle layout to any thickness to match with shell cast, electros, zinc or plastic plates.



The Morrison Slug Stripper ($435.00) and the Morrison Router, Mortiser and Type High Planer ($455.00) will give you the most efficient tooling ever designed for composing room use. Nothing else will do this job as well.

Write or telephone for complete information on either or both of these machines now considered standard equipment for your composing room. This could be the best purchase you have ever made.

THE *Morrison* COMPANY

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Offset Plates

(Continued from Page 32)

tion, many platemakers prefer to pre-etch their plates, using the regular plate etch before coating the plate with the light sensitive coating. Both the aforementioned operations are carried on in the whirler if the plate is to be coated. Of course, when the job is to be hand drawn, the plate is only counteretched prior to the hand work.

Whirling the Plate

A light sensitive coating is whirled to the plate's surface, the type of coating depending upon whether the plate is to be finished deepetch or albumin. The most commonly used substance added to the albumin or gum arabic (used for deepetch) is dichromate of ammonia, its addition giving the solution the property of hardening

under the action of light. There is a dark reaction, too, but that is secondary.

The albumin-dichromate solution when whirled dry on the metal plate, hardens under the action of light, where it passes through the open parts of the negative as the whole is exposed to the arc lamps. Following exposure, the entire plate is coated with lacquer, inked and then developed under water. Unexposed and consequently soft areas release, leaving only the work areas which have been rendered insoluble to water by the light hardening process. The plate is then etched and dried under a gum arabic solution. This chemical reaction provides the open or non-work areas of the plate with the ability to throw off ink and thus remain clean in the printing operation.

The gum arabic-dichromate solution, whirled to the surface of the printing plate and dried, will harden under the open areas of the positive, leaving the work areas (in black on the positive and light resistant) soft, when exposed under an arc lamp. The plate is then developed (Fig. 3) the chemical reaction of the developer removing the soft coating and exposing the metal beneath it. This exposed metal is then attacked by the action of the deepetch solution.

After sufficient etching, the deepetch solution is removed with alcohol and cellulose wipers and a coating of lacquer is applied over the entire plate. When thoroughly dry, developing ink is applied all over the plate and dried. The plate is then immersed in water. Since the hardened coating is water soluble, it comes off the plate carrying away the lacquer and ink resting on it. This leaves the etched areas with their lacquer and ink remaining as work. The plate is then finished as in the albumin process by etching and drying under a gum arabic solution.

Chemicals and substances used in the above coating and etching solutions are as varied as the operator, the metal being worked, and the concern marketing them. Phosphoric acid, hydrochloric acid, tannic acid, magnesium chloride, ammonium salts, zinc chloride, iron perchloride, lactic acid, calcium chloride and magnesium nitrate are among the materials used in the above solutions.

If you have gleaned some idea of the skill possessed by the offset platemaker through reading this, then the effort will not have been in vain. In addition, should you have attained even a fleeting glimpse of the operations involved, your reading will surely have been time well spent.

(To Be Continued)

Plan ROP Color Drive—ROP color is being mapped for the Albuquerque (N. Mex.) *Journal* and *Tribune* as soon as their new Goss Headliner press goes on edition. The six unit press is equipped for full color flexibility. Planning the color drive are, from left to right, Malcolm Bolles, retail advertising manager; D. S. Murdock, business manager, and Charles Eklund, mechanical superintendent, Albuquerque Publishing Co.

Special Service is routine with the Burgess representative

The Burgess representative is an experienced stereotyper. His travels take him into all types of plants with equipment and work of every description. He is at your service with valuable assistance. And he especially likes to help on those tough problems. His product—Burgess Mats—is top quality, too. Together, they make quite a team. Try them.

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Kennedy Road, Agincourt, Ontario

For More Information Circle 26 on Reader Service Card

Equipment

Sales and Installations

Reports

Kidder Installation

Kidder Press Co. recently held a five day demonstration of its new four color Flexographic press at the company's Dover, N. H. plant. The press, primarily designed to print paper for the multi-wall bag trade, was purchased by Equitable Bag Co. Called Kidder Heavy Duty Flexoprinter, press is 65 in. wide, with extended cylinder range of 18½ in. to 67 in. It is equipped with a Kidder constant tension unwind stand with hydraulic roll lifter. Rewinder is a drum or surface type, with variable speed device between the two drums.

Intertype Company

Intertype Company, Div. Harris-Intertype Corp. has announced the following installations:

Fotosetter Typesetting Machine — Newport Business Forms Co., Inc., Whitewater, Wis.

Model V Hi-Speed Intertype—Corning (N.Y.) *Leader.*

Model C4 Hi-Speed Intertype — Corning (N.Y.) *Leader.*

The Corning (N.Y.) *Leader* has also adopted Intertype's 8 pt. Imperial on an 8½ pt. slug for text and 6 pt. Imperial on a 6 pt. slug for classified.

ATF Installations

American Type Founders Co., Inc. reports the following installations:

AFT Chief 15 *Offset Press*—Hein Lithographing Co., Inc., Floral Park, N. Y., and Morris Print Shop, Newburgh, N. Y.

ATF Chief 22 *Offset Press*—Civic Printing Co., New York, N. Y.; Post Printing Co., New York, N. Y., and Hein Lithographing Co., Inc., Floral Park, N. Y.

ATF Chief 29 *Offset Press*—Artistic Reproductions, Inc., New York, N. Y.; Victor O. Kubes, Inc., New York, N. Y., and Bruce Richards Corp., New York, N. Y.

ATF Style C Kelly Press—Koday Press, New York, N. Y., and Reliable Sample Card Co., Inc., New York, N. Y. (2).

ATF No. 3 Kelly Press—Reliable Sample Card Co., Inc., New York, N. Y. (2).

ATF Mann Perfector Offset Press, Model LP54—Mahoney & Roese, Inc., New York, N. Y.

ATF Brown 22 Commodore Camera—Victor O. Kubes, Inc., New York, N. Y.

Linotype Installations

Mergenthaler Linotype Co. reports the following installations:

Linotype Comet—Miami (Fla.) *News* (3); Quincy (Mass.) *Patriot-Ledger* (2); Columbia (Tenn.) *Herald;* Milton (Pa.) *Standard;* Portsmouth (N. H.) *Herald;* North Hollywood (Calif.) *Valley Times* (5); Brazil (Ind.) *Times* and Altoona (Pa.) *Mirror* (2).

Model 29 Linotype—New Brunswick (N. J.) *Home News.*

Model 30 Linotype—Honolulu (Hawaii) *Star-Bulletin.*

Model 31 Linotype—Orlando (Fla.) *Sentinel* and the *Evening Star.*

Model 32 Blue Streak Linotype—Shenandoah (Pa.) *Herald.*

Model 33 Linotype—Detroit *Times.*

Model 33 Rangemaster Linotype—Galesburg (Ill.) *Register-Mail.*

Model 35 Rangemaster Linotype—Minden (La.) *Herald & Webster Review* and the *Press,* and Iron Mountain (Mich.) *News.*

Model 36 Rangemaster Linotype—Bakersfield (Calif.) *Californian,* and Alamogordo (N. M.) *News.*

Seattle (Wash.) *Post-Intelligencer* has adopted Linotype's 5½ pt. Spartan Book with Heavy for its classified pages.

Miami (Fla.) *News* is using Linotype's 9 pt. TTS Corona.

Quincy (Mass.) *Patriot-Ledger* has selected Linotype's 8 pt. Corona as its new body type.

Durham (N. C.) *Herald* and the *Sun* have adopted Linotype's 8 pt. Teletype Corona with Bold Face No. 2 for its body type.

Worcester (Mass.) *Telegram* is using Linotype's 8 pt. Teletype Majestic.

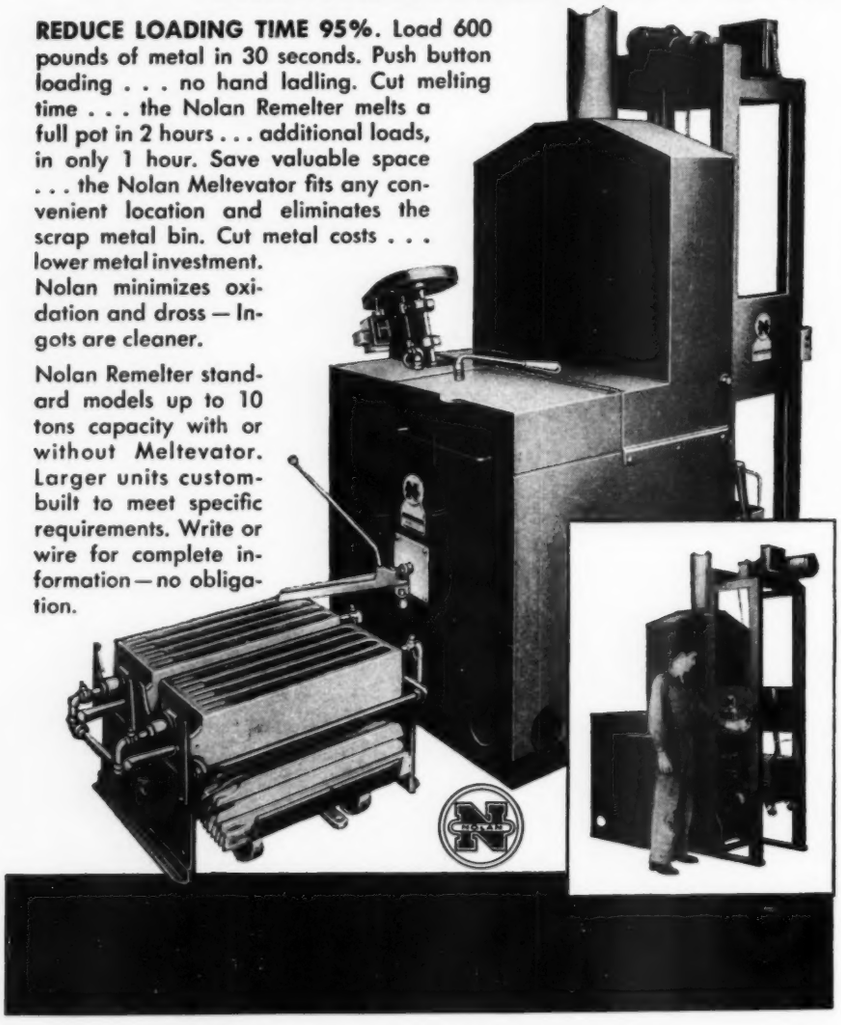
Marshall (Tex.) *News-Messenger* has installed Linotype's 8 pt. Teletype Corona with an 11 pica column.

Portland (Ore.) *Oregonian* has adopted Linotype's 9 pt. Cascade with Clarendon Bold on 9 pt. slugs with an 11 pica column. The newspaper is also using Linotype's 5½ pt. Spartan Book on 5 pt. slugs.

NOLAN REMELTER and MELTEVATOR

REDUCE LOADING TIME 95%. Load 600 pounds of metal in 30 seconds. Push button loading . . . no hand ladling. Cut melting time . . . the Nolan Remelter melts a full pot in 2 hours . . . additional loads, in only 1 hour. Save valuable space . . . the Nolan Meltevator fits any convenient location and eliminates the scrap metal bin. Cut metal costs . . . lower metal investment. Nolan minimizes oxidation and dross — Ingots are cleaner.

Nolan Remelter standard models up to 10 tons capacity with or without Meltevator. Larger units custom-built to meet specific requirements. Write or wire for complete information — no obligation.



For More Information Circle 132 on Reader Service Card

Literature

(Continued from Page 28)

PLASTIC PRINTING PLATES

Advertiser Dealer Service has published a 12 page bulletin descriptive of its lightweight plastic plates used in magazines, newspapers, catalogs, trade papers and sales promotion material. Plates can be flush mounted, unmounted, beveled, or mortised. Complete illustrations are included in bulletin. Circle No. 328 on Reader Service Card.

NEW ENGLAND CATALOG

New England Newspaper Supply Co.'s products are listed in Catalog No. 51, which is now offered. Products include printing blankets and stereotype, composing and pressroom equipment. Circle No. 323 on Reader Service Card.

OXFORD OFFSET PAPER

Fenwick Opaque offset paper was used to print an attractive four color process folder available from Oxford Paper Co. Qualities of Fenwick Opaque are described. It is said to be a premium quality paper high in brightness and opacity. Other features include dimensional stability, uniform ink receptivity and high bond. Descriptions of Wescar offset, Rangeley offset, Wescar satin plate offset and Wescar gloss plate offset are also given. Circle No. 325 on Reader Service Card.

FORK LIFT TRUCKS

Tips on operating fork lift trucks more safely are included in an eight page, two color bulletin available from Lewis-Shepard Products, Inc. Illustrated with cartoon type drawings, bulletin is descriptive of safe operating practices, and can be used as a guide

BEVERIDGE MATS CLICK WITH OLD-TIMERS, TOO!

● An old-timer in the stereotype field is an honored mechanical executive with years of practical experience. That's why old-timers rely on Beveridge Mats. They know from years of experience that they can rely on Beveridge quality mats and unexcelled service. Old-timers and *new-timers* alike find these mats provide clean release of plate, deep molding qualities and sharp faithful reproductions. Can we talk?

New Products Division of
THE BEVERIDGE PAPER COMPANY
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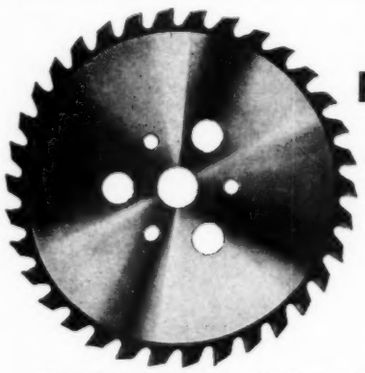

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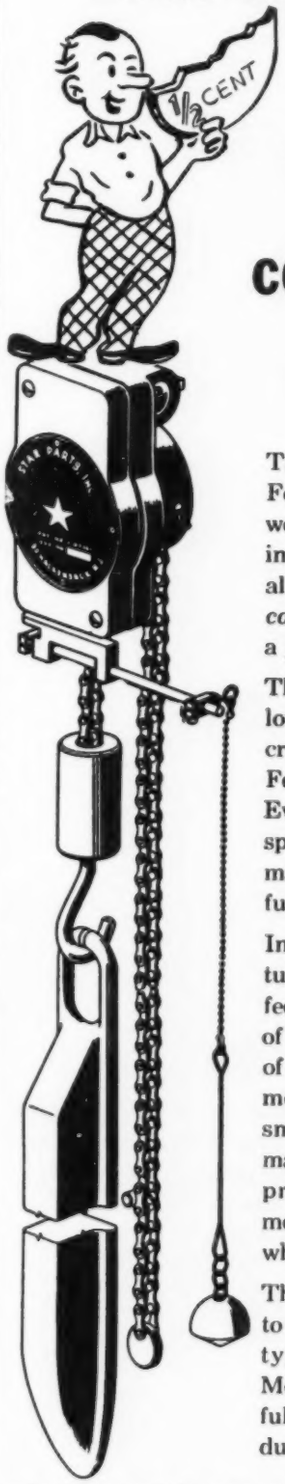

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There are good reasons for this low-cost long-life operation. All critical, wearing surfaces of Star Feeder parts are glass hardened. Every part in the Star Feeder is specially designed and precision manufactured for its particular function.

In addition, the Star Feeder features a watch-like escapement, to feed small but frequent amounts of metal. It feeds as little as 1/32" of metal, as compared to ¼" or more by other feeders. These small, frequent feedings help maintain both metal level and proper temperature, since pig metal enters the pot in amounts which can be melted quickly.

The Star Feeder can be applied to all models of Linotypes, Intertypes, Ludlows, Elrods and Monotypes. It is especially useful on display and other "heavy duty" machines.

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For More Information Circle 168 on Reader Service Card

in setting up a fork truck driver training course. Included in topics are selecting operators, classroom instruction, driving instruction and maintenance responsibilities of trained operators. Circle No. 308 on Reader Service Card.

STRAPPING MACHINE

Model 12 automatic round steel strapping machine is the subject of a folder prepared by Gerrard Steel Strapping Div., United States Steel Corp. Also available is the *Blue Book of Packaging*, which contains full information on all USS Gerrard machines and round and flat strapping. Circle No. 321 on Reader Service Card.

CHEMCO EXPORT PRICES

Chemco Photoproducts Co. has prepared a 12 page booklet, *Export Price List*, descriptive of the company's equipment and supplies for photoengraving, lithography, rotogravure and general Graphic Arts use now available for export. Prices shown are applicable only to export. Physical details of export packing are included. Circle No. 311 on Reader Service Card.

ROTARY AIR COMPRESSORS

New rotary air compressors are described and illustrated in a bulletin published by Kellogg Division, American Brake Shoe Co. These 1-2 h.p. pumps are said to supply air in the 150-175 p.s.i. range. Principles of operation with cutaway diagrams, special features, and operating and mounting specifications are included in the eight page, two color bulletin. Circle No. 312 on Reader Service Card.

KIMBERLY-CLARK BOOKLET

The New Art of Papermaking, a 38 page booklet detailing the story of paper in nontechnical terms, has been prepared by Kimberly-Clark Corp. Booklet is illustrated with 60 pictures and drawings and printed in two colors on double coated stock. History of papermaking, the structure of paper, papermaking procedures and basic methods of preparing pulp are outlined. A four color, fold out center spread is used to illustrate the actual papermaking process on Kimberly-Clark's new multi-million dollar double coating paper machine. Five page glossary of papermaking terms is included. Circle No. 327 on Reader Service Card.

NEXT MONTH

PRINTING EQUIPMENT Engineer's Annual

PLANT PLANNING & IMPROVEMENT ISSUE

The only regularly-published Graphic Arts Issue designed to help you plan expansion and new facilities. Reports from readers call this the most popular issue of the year. Don't miss these Special Issue Features:

- Special section with pictures and layouts of over 30 new plants of all sizes.
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- Building Materials
- Workflow Planning
- Department Locations
- Feature article on new lighting standards for the Graphic Arts

PRINTING EQUIPMENT *Engineer*

Graphic Arts Meetings

(With Organization Name and Correspondence Officer)

American Photoengravers Assoc. — 1958 Conv., Hilton Plaza Hotel, Cincinnati, O., Oct. 13-15. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Chicago 4.

ANPA Mechanical Conf.—1958 Conf. Chalfonte-Haddon Hall, Atlantic City, N. J., June 23-25. Mgr. Richard E. Lewis, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—1958 Conv., Greenbrier Hotel, White Sulphur Springs, W. Va., Oct. 8-11. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Educational Graphic Arts Exposition—Coliseum, New York, N. Y., Sept. 6-12, 1959. Gen. Mgr. A. E. Giegengack, 5600 Massachusetts Ave., N.W., Washington 16, D. C.

Fifth District Craftsmen's Conf. — 1958 Conf. Pantlind Hotel, Grand Rapids, Mich., May 23-24. Secy.-Treas. George W. Thompson, Toledo Colortype Co., 1711 Jefferson Ave., Toledo, O.

Graphic Arts Trade Assoc. Executives—1958 Spring Meeting, Kenwood Country Club, Washington, D. C., Apr. 11-12. Secy.-Treas. William Gary, Louisville Graphic Arts Assoc., Inc., 444 Commonwealth Bldg., Louisville 2, Ky.

Gravure Technical Assoc. — 1958 Conv., Hotel Commodore, New York, N. Y., Feb. 26-28. Exec. Secy. Edward S. St. John, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Mechanical Conf.—1959 Conf., Hotel Statler, Detroit, Jan. 18-20. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press*.

Illinois Newspaper Mechanical Conf.—1958 Conf., Hotel Orlando, Decatur, Ill., Sept. 13-14. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News*.

Intl. Assoc. Electrotypers & Stereotypers—1958 Conf., American Hotel, Bal Harbour, Fla., Oct. 21-24. Exec. Secy. Floyd C. Larson, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1958 Conv., Statler Hotel, Detroit, Mich., Aug. 10-13. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc.—1958 Conf., Stout State College, Menomonie, Wis., Aug. 3-7. Exec. Secy. Samuel M. Burt, 5728 Connecticut Ave., N.W., Washington 15, D.C.

Intl. Printers Supply Salesmen's Guild—1958 Conv., Statler Hotel, Detroit, Mich., Aug. 10-13. Secy. Francis J. Tominey, *New England Printer & Lithographer*, 470 Altantic Ave., Boston 10, Mass.

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Intl. Typographic Composition Assoc.—1958 Conv., Ambassador Hotel, Los Angeles, Calif., Oct. 14-17. Exec. Secy. W. E. Switzer, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conf.—Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—1958 Conf., Town House Hotel, Kansas City, Kans., Sept. 6-7. Kansas Gen. Mgr., Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 115 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.—1958 Conv., Arizona-Biltmore Hotel, Phoenix, Ariz., Apr. 28-May 1. Exec. Dir. Oscar Whitehouse, 381 Fourth Ave., New York 16, N. Y.

Mid-Atlantic Newspaper Mechanical Conf. — 1958 Conf., Penn-Sheraton Hotel, Pittsburgh, March 13-15. PNPA General Mgr. Richard Dew, 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—1958 Conv., Shoreham Hotel, Washington, D. C., May 1-3. Exec. Secy. Edward L. Bode, 504 Majorie Ave., Dayton 4, O.

National Assoc. of Photo-Lithographers—1958 Conv., Statler Hotel, Boston, Mass., Sept. 10-13. Exec. Dir. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—1958 Meeting, Waldorf Astoria Hotel, New York, N. Y., Mar. 31-Apr. 2. Secy. J. H. Londergan, 220 E. 42nd St., New York 17, N. Y.

National Printing Equipment Assoc., Inc.—1958 Meeting, Statler Hotel, Dallas, Tex., Oct. 13-16. Secy. James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Section—Staff Rep. Harry C. Johnson, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc. — Secy. Lewis R. Greene, Westerly (R.I.) *Sun.*

New England Newspaper Mechanical Conf.—1958 Conf., Statler Hotel, Boston, Oct. 18-19. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

Newspaper ROP Color Conf. — 1958 Conf., Waldorf Astoria Hotel, New York, N. Y., Sept. 15-17. Secy. Arthur Brashears, American Assoc. of Newspaper Representatives, 141 E. 44th St., New York, N. Y.

New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Albany (N. Y.) *Times-Union.*

Northwest Mechanical Conf. — 1958 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 22-24. Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf.—1958 Conf., Mark Hopkins Hotel, San Francisco, Calif., Sept. 5-7. Secy. Ed Maggi, Phillips & Van Orden Co., 879 Brannan St., San Francisco, Calif.

Packaging Institute Assoc. — 1958 Meeting, Edgewater Beach Hotel, Chicago, Oct. 13-15. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1958 Conv., Statler Hotel, Dallas Tex., Oct. 13-16. Gen. Mgr. Bernard Taymans, 5728 Connecticut Ave., N.W., Washington 15, D. C.

Research and Engineering Council—1958 meeting, Edgewater Beach Hotel, Chicago, May 21-23. Managing Dir. Robert E. Rossell, 5728 Connecticut Ave. N.W., Washington 15, D.C.

SNPA (Western Div.) Mechanical Conf.—1958 Conf., Hotel Mayo, Tulsa, Okla., Mar. 2-4. Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

Southern Graphic Arts Assoc.—1958 Conv., Brown Hotel, Louisville, Ky., May 19-21. Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Screen Process Printing Assoc., Intl.—1958 Conv., Sheraton Palace Hotel, San Francisco, Calif., Aug. 22-24. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical

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These and many other advantages are found only in C & P Full Hydraulic 26½" and 30½" cutters. Examine them—test them and you, too, will say "These cutters are years ahead of the field." Ask your C & P dealer for a complete demonstration.

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For More Information Circle 39 on Reader Service Card

Conf.—1958 Conf., Dinkler-Plaza Hotel, Atlanta, Ga., Aug. 17-19. Secy. Grady M. Lemons, Southern Newspaper Publishers Assoc., P.O. Box 1569 Chattanooga 1, Tenn.

Technical Assoc. of the Graphic Arts—1958 Conv., Beverly-Hilton Hotel, Los Angeles, June 23-26. Secy-Treas. B. L. Sites, Miehle Printing Press & Mfg. Co., 2011 W. Hastings St., Chicago 8.

Forward Look in Printing

PIA's fourth Presidents Conference for Top Management was devoted to the *Forward Look in Printing* in an attempt to lift the curtain on the future so that printing management can equip itself for forward planning. The conference was held recently at Hotel Palm Beach Biltmore, Palm Beach, Fla. Such sessions as *Planning Now to Use the Machinery and Methods of Tomorrow* and *Planning Your Future Work Force* presented specific ideas for forward production planning. Speakers included: H. R. Kibler, president, PIA; Frank Pfeiffer, past president, Research Council; Charles Schatvet, secretary, PIA; Fred Smith, nationally known speaker; and a panel of technical advisors under the chairmanship of Paul Lyle, Western Printing and Lithographing Co.

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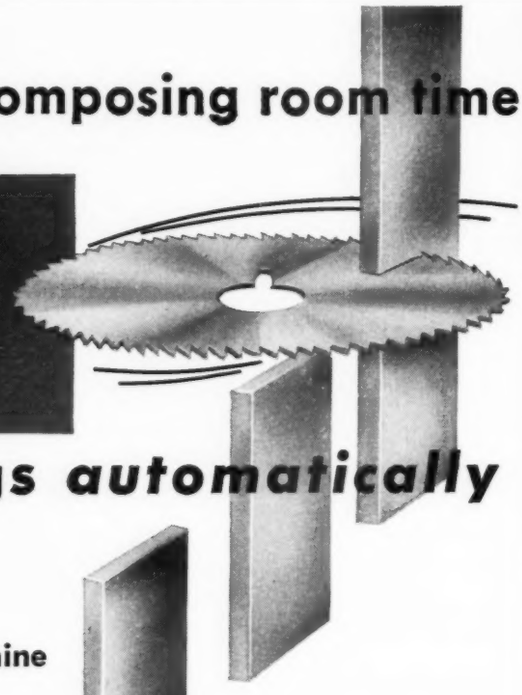

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A Mohr saw, attached directly to your linecasting machine, will cut away the parasites that prey upon profits—walking time, waiting time, sawing time and jam-ups. All sawing is done right *at the machine*,—and you'll get a *better* job without spoilage.

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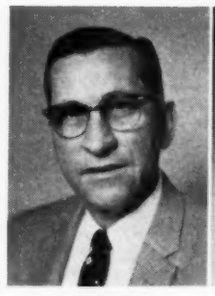
For More Information Circle 123 on Reader Service Card

News ITEMS

Lake Erie Machinery Corp. announces appointment of Archie J. Smith as the West Coast representative for the company's printing equipment division. Smith's headquarters will be in Van Nuys, Calif.



SMITH

HEWITT

William L. Hewitt has been appointed vice president of operations for Intertype Company, Div. Harris-Intertype Corp. Hewitt formerly held the position of controller. Also announced was the appointment of John T. Roth as director of manufacturing, having over all responsibility for manufacturing. Charles T. Schildhauer succeeds Roth as works manager.

Paasche Sales Manager — Appointment of Donald Ahrens as sales manager of Paasche Airbrush Co., Div. Cline Electric Mfg. Co., was announced by Paul A. Benke, vice president and general manager. Ahrens started with the parent organization in 1951 as an administrative assistant and came to Paasche in 1955.

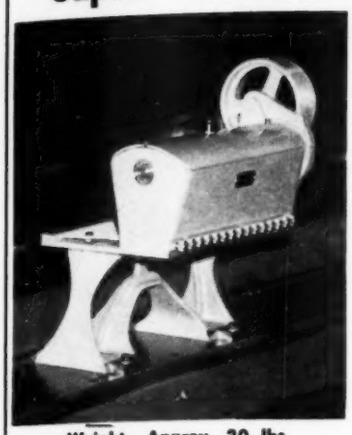
AHRENS

MANDEVILLE

Kidder Appointment—Kidder Press Co. announces that Russell Mandeville has joined its New York, N. Y. staff. Mandeville will act as advisor to customers on effective operation of Kidder presses.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent. If it isn't correct, tell us about it on a postcard.

"Capco" Portable Ink Fountain



Installation on late model Goss Headliner

- Provides COLOR efficiently
- Increases production—affords press-room savings up to 75%

Weight—Approx. 30 lbs.

- Saves time of pressmen—no costly installations
- Can be used on new or older equipment
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Let us tell you about the Many Other Features!

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With so much effort and money expended to improve the mechanical phase of newspaper production, it's not prudent to accept less than the quality of Wood Dry Mats.

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SAWS • ROUTERS • MORTISERS

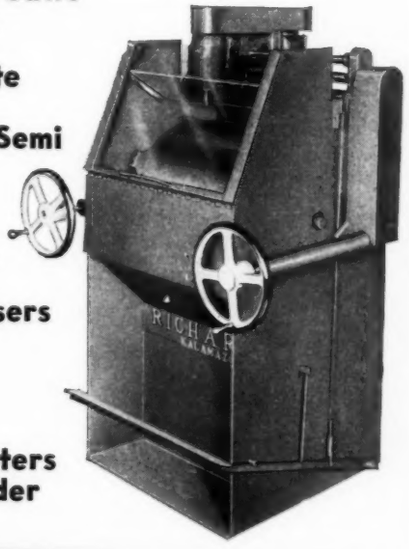
Stereotype Saws Three Sizes

Curved Plate Routers Tubular or Semi

Flat Plate Routers Three Sizes

Plate Mortisers Bench or Pedestal Models

Special Routers Built To Order



J. A. RICHARDS COMPANY
903 N. PITCHER STREET • KALAMAZOO, MICHIGAN

For More Information Circle 150 on Reader Service Card

ENGINEERING FOR THE GRAPHIC ARTS

TO MEET GROWTH REQUIREMENTS

- *ANALYSIS OF PRESENT OPERATIONS*
- *REPORTS AND RECOMMENDATIONS*
- *PLANS AND SPECIFICATIONS*
  - *plant rearrangement*
  - *plant extension*
  - *new plant*
- *CONSTRUCTION MANAGEMENT*

•

CHAS. T. MAIN, INC.

BOSTON, MASSACHUSETTS • CHARLOTTE, NORTH CAROLINA

For More Information Circle 110 on Reader Service Card

3 noteworthy selling events!

1. Liquidating surplus equipment of the McGill-Warner-Farnham Co. consolidation in St. Paul and Minneapolis.

Inventories, serialized mailed on request.

Selling out entire plant facilities of:

2. Sentinel Printing Co., Chicago

3. Theo. Rozek & Co., Chicago

List on request.

All machines may be inspected under power. Prices consistently on the low side of the market to attract the conservative, thrifty buyer.

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TELESCOPING TRUCK LOADERS

- **Lightweight, Rugged Construction**
- **Fixed, Powered or On Trackage**

Wiroveyor Telescoping Truck Loaders provide faster, more efficient loading, dependable, low cost operation. Available with gravity or powered rollers, manual or powered self-locking extensions, manual or automatic bundle deflectors.

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HAwthorne 7-2457

Circle 229 on Reader Service Card

DAYTON

Dayton Appointed Hurletron Mgr. — The appointment of Gilbert R. Dayton as manager in charge of the Hurletron Press Drive Equipment Div., for the Electric Eye Equipment Co., has been announced. A graduate electrical engineer from University of Illinois, Dayton has been associated with the printing industry for the past 25 years as a specialist in press drives and color register equipment.

Champion Appointment — Champion Paper and Fibre Co. has announced appointment of George D. Kennedy as manager of its New York, N. Y. sales office, servicing customers in the New York and New England areas. John Osborn, vice president and previously manager of the New York office, will remain in the area to assist the firm in major contract work.

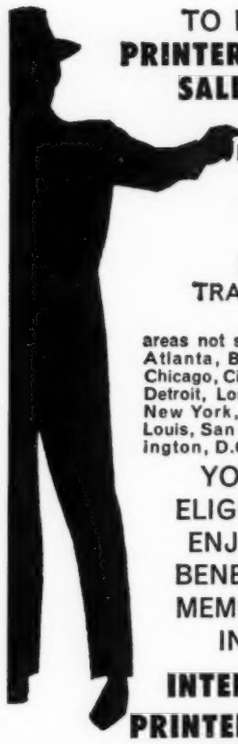
Miehle Appointment—Carlton Mellick, vice president of sales, Miehle Company, Div. Miehle-Goss-Dexter, Inc., has announced appointment of William H. Nicholls as manager of Miehle's Boston office. Nicholls has had a long association with Miehle in the capacity of sales representative.

NICHOLLS

FARR

Regional Sales Manager—Announcement has been made by Herbert Products, Inc. of the appointment of John H. Farr as regional sales manager, serving Illinois, Indiana, Ohio, Kentucky, Wisconsin and Michigan. Farr has long experience in the newspaper and Graphic Arts industries.

Vice President and General Manager—Louis A. Snyder has been named vice president and general manager of Caxton Press, Inc., Canton, O., it was announced recently by John Carver, president. Formerly manager, Snyder has handled major printing operations for the company for many years. It was also reported that Caxton has recently completed the new Timken Roller Bearing Co. *Engineering Journal*, said to be one of the biggest single printing orders in the country.



TO EVERY
PRINTERS' SUPPLY SALESMAN

SELLING
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EQUIPMENT • SUPPLIES
INK • PAPER
TRADE SERVICES
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areas not served by Guilds in Atlanta, Baltimore, Boston, Chicago, Cincinnati, Cleveland, Detroit, Los Angeles, Newark, New York, Philadelphia, St. Louis, San Francisco, Washington, D.C.

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"PRESSTIME PROMPTNESS!

Why that is our long suit."

The new general manager is glad to hear it. Delay in getting the paper out is one thing he will not tolerate . . . So there is a ring of pride when the production manager tells him, "For more than a year—the time we went to Certified Mats we haven't varied more than a minute in getting papers in the . . . late breaks in big news excepted."

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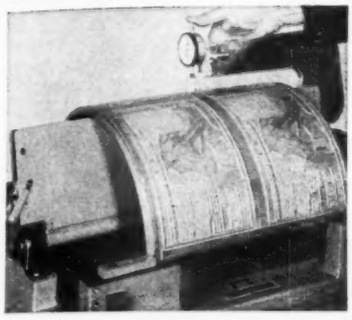
For More Information Circle 36 on Reader Service Card

NEW COMPLETE INSPECTION INSTRUMENT for CURVED AND FLAT PRINTING PLATES AND MATERIALS . . .



• Thickness • Width
• Color Register
• DEPTH in halftones, bowls of letters, space depth, shoulders in plates, engravings, mats, lines of type, matrices, electros, plastics, etc.

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QUICKSET INK CONDITIONER
TRIK®
for work-&-turn litho and letterpress . . . eliminates messy non-offset spray.
1 lb. can $2.20 Send for Price List
CENTRAL COMPOUNDING COMPANY
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Mfrs. of Glazcote, 20/20 Overprint Varnish, 33 & 0-33 Ink Conditioners
Circle 34 on Reader Service Card

Riegel Paper Elects—John L. Riegel, chairman of the board, Riegel Paper Corp., has reported election of J. Bicknell Lockhart as a vice president. Lockhart will continue as manager of merchant and industrial sales. Frederick M. Jennings succeeds Lockhart as secretary of the company. Also announced was election of E. V. Hogan, manager of Riegel's lumber division, as a director. Hogan formerly owned the Norman Lumber Co., acquired by Riegel through merger in January 1957.

Contest Winner—John E. Bennett, who represents Mergenthaler Linotype Co. in midtown New York, N. Y., has been named winner of the company's national sales contest. First prize is a trip to Acapulco, Mexico, for the winner and his wife.

Assistant Advertising Manager—Robert C. Mason, jr. has been named assistant advertising manager for Graphic Arts, trade, and industrial products, reports Du Pont Photo Products Dept. Mason succeeds James E. Douthitt, now with the Polychemicals Department advertising group.

Morrill Sales Representative—John Hays has been appointed sales representative for Geo. H. Morrill Co., Div. Sun Chemical Corp., it was reported by R. W. Dando, general manager. Hays will cover Western New York, Philadelphia, Maryland, Delaware and Washington, D. C.

HAYS SCHROEDER

Intertype Company, Div. Harris-Intertype Corp., reports appointment of Virgil P. Schroeder as assistant to the manager of the Midwestern district office in Chicago. He joined the company in 1953.

Sales Representatives—Intertype Company, Div. Harris-Intertype Corp., has announced appointment of Charles J. Stupka and Howard H. Moad as sales representatives. Stupka will cover Northern Cook County, Ill., including Chicago. He joined the company in 1925. Moad will cover the State of Michigan, working under the jurisdiction of the Midwestern District Office in Chicago. He has been with Intertype since 1946.

MOAD STUPKA

HERE IS THE NEW 1958 MODEL **DURAL**

ALUMINUM STEREO CHASE

Equipped with the Sensational
SELF-LUBRICATING NYLON INSERTS
And Our New Retractible Lock Bar

Manufactured Exclusively by the

BEARD NEWSPRINT & WAREHOUSE CO.

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For More Information Circle 19 on Reader Service Card

Mechanism of the Linotype and Intertype

Written for Machinist-Operators, Machinists, Superintendents and Students

Technical operating knowledge of the Linotype and Intertype is available in the 14th edition of this 334 page book. Revised and amplified by Oscar R. Abel and Windsor A. Straw, the text includes 200 illustrations. Information has been added about late improvements in the machines. A practical and essential book for every composing room.

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ONLY THE BEST!

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BOOTH ZINK CUT CEMENT!

Years of constant use have proved the superiority of Booth Zink Cut Cement in Composing and Stereotype Departments.

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Circle 22 on Reader Service Card

Manages New Plant — Appointment of Thomas J. Manning as plant manager of the new Cutler-Hammer plant now under construction in Lincoln, Ill. has been announced by Philip Ryan, president, Cutler-Hammer, Inc. Manning will head manufacturing and administrative operations of the $4 million plant scheduled for completion in late spring of 1958. The company's line of low voltage distribution apparatus will be manufactured there.

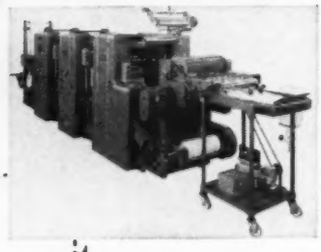
Veteran Employees Honored—Ideal Roller & Mfg. Co. recently honored a number of its veteran employees with 20-year watches and 30-year pins. The 20-year award went to Emmy Bresett at the Long Island City, N. Y. plant and to Evelyn Clark, Irwin O. Nejdl, and Henry Rauner at the Chicago plant. James Laszlo, Armean Gasabian, Stanley Skibicki, and Fred Schuster, all at Chicago, received 30-year awards.

COLLINS PALAIS LEHECKA STEPP

Four Sales Representatives—Didde-Glaser, Inc. recently announced appointment of four representatives to cover the Northcentral, Midwestern, Western and Southwestern sales and service divisions. William Collins, with headquarters at the company's home office in Emporia, Kan., will be Northcentral representative for Kansas, Nebraska, Colorado and Missouri. Alvin Palais has been named Midwestern representative with headquarters in Chicago. He will cover Minnesota, Wisconsin, Illinois, Iowa and St. Louis, Mo. In the Western division, William C. LeHecka will represent the company in California, Washington, Oregon, Arizona, Idaho, Nevada and Utah, with headquarters in Los Angeles. Paul E. Stepp is Southwestern representative covering Texas, Oklahoma, Louisiana, Arkansas and New Mexico. He will work from Houston, Tex.

Speed Flex **ROTARY PRESSES SPEED PROFITS!**

for new, faster methods of printing, investigate *Speed Flex*



ORVILLE DUTRO & SON, INC.
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WRITE FOR INFORMATION!
Designed and sold exclusively by Orville Dutro & Son. Made by Western Gear, manufacturers of gears and special machinery for industry since 1888.

For More Information Circle 54 on Reader Service Card

TROLLEY'S THE THING!

●Wrap-ups due to web breaks in long folder and color leads are hard to prevent, that is, if you don't have **COOKSEY SYSTEM TROLLEYS.**

Investigate the Cooksey System Today

KORTHE ENGINEERING CO.

9353 Seymour Ave., Schiller Park, Illinois

Sales Agents { The Goss Printing Press Co., Chicago / R. Hoe & Co., New York / Wood Newspaper Machinery Co., New York

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CLASSIFIED Advertising

ALL CLASSIFICATIONS

$1.00 per line 1 9/16" wide. Minimum ad 5 lines. 25 characters per line. Cash with order.

CLOSING DATE—15th of Month preceding Date of Issue

We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer. 1276 West 3rd Street, Cleveland 13, Ohio.

CONSULTANT

Consultation service on all problems relating to use of letterpress, lithographic and gravure printing papers. Byron L. Wehmhoff, formerly Technical Director, U.S. Gov't. Printing Office, Washington, D.C., and W. F. Hall Printing Co., Chicago. Service engineer 22 yrs. with West Va. Pulp & Paper Co., New York. Now at 508 Lake Shore Dr., Oakland Shores, Maitland, Fla. (Phone: Winter Park, Fla., Midway 4-7430.)

NEW PRODUCTS NEW IDEAS WANTED

Equipment or supply items—we to manufacture and sell. Must be new and useful. Terms, purchase or royalty. The Pate Co., 3553 Peterson, Chicago 45, Ill.

WANTED

MANAGER for well established letterpress printing plant in Florida. Must be competent and have successful record of experience and performance. Address Box A—PRINTING EQUIPMENT Engineer.

ESTABLISHED AA-1 RATED MANUFACTURER NEEDS ADDITIONAL PRODUCTS

We are manufacturers of the Efficiency Chuck for roll wound presses. Need additional proven items to manufacture in our complete and efficient machine shops. Sell to printing trade. Royalty or negotiated basis. VALLEY MFG. CO., Valley, Neb.

What Have You Devised?

As a production and/or mechanical executive, our readers will be pleased to learn about something you have devised to improve plant operation. Just write informally to:

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1276 W. Third St.
Cleveland 13, Ohio

PRECISION
Flat-Ground TURTLE
Mirror-smooth, extra thick top, 24" x 28½", is heavily ribbed to maintain accuracy. Adjusts from 36½" to 39½" working height. 5" x 1½" double ball bearing swivel type composition casters. Heavy-duty, rugged construction assures years of trouble-free service.

NOLAN Corporation Dept. 822 Rome, N. Y.

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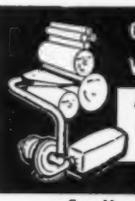

GET FULL PRODUCTION QUALITY PRINTING
WITHOUT STOPS FOR UNNECESSARY WASHUPS
Doyle SHEET CLEANERS
PATENTED
Write for Free Bulletin
J. E. DOYLE CO. 1220 West 6th St., Cleveland 13, Ohio

For More Information Circle 52 on Reader Service Card

ACCIDENTS REDUCED TO ZERO WITH BRETT-GUARD "TEN-SEE"! BECAUSE, YOU SEE WHAT YOU SAW
Work with fingers and eyes close to saw blade with complete safety! Plexiglas and Safetyglass give complete visibility. Eliminates flying chips.
Write Today For FREE 30-Day Trial!
BRETT-GUARD COMPANY
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Pre-Press Equipment

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STOP STATIC ELECTRICITY
PUSH BUTTON & SPRAY

$3 A CAN • $30 A DOZEN

STATIKIL
Guaranteed...
USED REGULARLY IN THE LARGEST PLANTS
THE ORIGINAL • THE ONLY
Trade Mark Reg. in U.S. Pat. Off.
Just Spray STATIKIL
1220 WEST 6th ST. CLEVELAND 13, OHIO
Quality Control Equipment for the Printing Industry for 42 years

For More Information Circle 53 on Reader Service Card

Opens Dallas Office—Miehle-Goss-Dexter, Inc. has announced the opening of a new sales office located at 724 Young St., Dallas, Tex. The office will house Texas area representatives of the Miehle Company, the Lawson Company and the Dexter Company. A Lawson 55 electronic spacer, a Cleveland folder and Miehle offset and letterpresses will be on display in the showroom. A unique feature of the office is the Dallas Heliport which is part of the building. Direct commuter service by Helicopter is available from the Dallas or Fort Worth airport to the M-G-D office. Car parking is provided on the roof of the building. An open house was held in the showroom during Printing Week, Jan. 13-18. Printers from Texas, Oklahoma, Arkansas and Louisiana were invited to visit the demonstration of equipment. In addition, evening school was held for technical personnel.

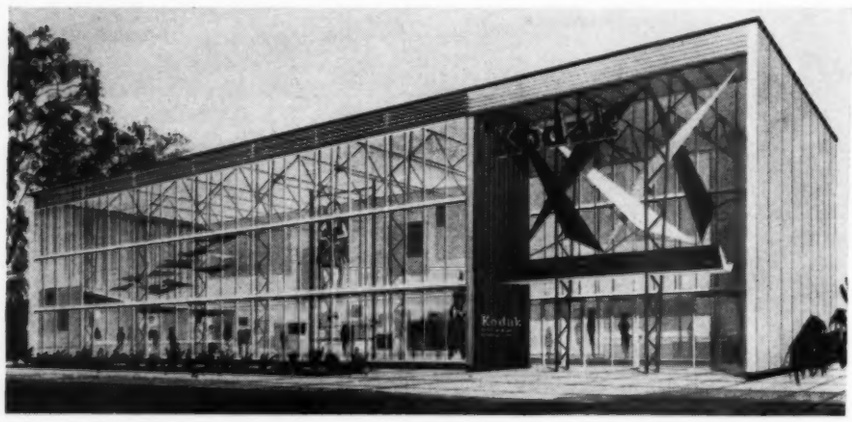
Riegel Promotion—A. P. Mitchell, senior vice president, Riegel Paper Corp., states that Winthrop Endicott has been named manager of merchant and industrial sales. Endicott succeeds J. Bicknell Lockhart, jr., recently elected vice president, who now becomes vice president in charge of administration. William Riegel, formerly a product supervisor, follows Endicott as product manager.

Annual Employee Bonus—American Business Systems, Inc. announced that it recently gave its 15th consecutive annual bonus to more than 150 employees. R. J. Weinstock and S. Gaynor, co-owners, also announced plans for a continued expansion program into 1958.

Sales Office Manager—West Virginia Pulp and Paper Co. has appointed Kenneth W. Glazebrook manager of the company's Philadelphia sales office, announces Albert L. Armitage, manager, commercial printing paper sales. The Philadelphia office, located in the National Bank Building, at Broad and Chestnut Sts., was recently opened to service markets in Eastern Pennsylvania, Maryland, Delaware and Southern New Jersey.

BROGDON

Boyce Brogdon has been named composing room superintendent for the Norfolk (Va.) *Virginian-Pilot* and the *Ledger-Star*. He succeeds Walker Young, who held the position in addition to serving as production manager. Young will be in charge of overall production matters. Brogdon was formerly composing room superintendent for the Knoxville (Tenn.) *News-Sentinel*.



Photographic Information Center at the Brussels World's Fair of 1958 will be located behind this 100 ft. by 30 ft. glass front to the Kodak Pavilion. The building, of glass, steel, aluminum and wood structure, will serve as photographic headquarters for many of the estimated 35 million visitors expected at the fair. World-wide Kodak companies have contributed to the structure and will staff it with authorities on photography who can answer questions in many languages. Various photographic exhibits will decorate the interior of the building. The fair opens Apr. 17 and runs through Oct. 19.

ADVERTISERS' INDEX

FEBRUARY, 1958

P. E. E. REPRESENTATIVES

PAUL B. HOLDER, Advertising and Promotion, 1276 West Third St., Cleveland 13, O. Phone PRospect 1-0088.

WILLIAM L. OSBORN, Eastern Advertising Representative, 2709 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

MELBURN O. SIMMONS, Mid-West Advertising Representative, 333 North Michigan Ave., Chicago 11, Ill. Phone DEarborn 2-6467.

WM. A. AYRES, West Coast Representative, 233 Sansome St., San Francisco 4, Calif. Phone YUkon 6-2981.

JACK DeBAR SMITH, Wm. A. Ayres Co., 5880 Hollywood Blvd., Hollywood 28, Calif. HOllywood 2-1133.

Alan Wood Steel Co. 3
Alico, Incorporated 79
American Publishers Supply, Inc. 80
American Steel Chase Co. 67
American Type Founders Co. 22
American Wood Products & Tool Supply.. 73
Ansco Div., General Aniline & Film Corp. 26

Bahnson Company 65
Baum, Russell Ernest, Inc. 68
Beard Newsprint & Warehouse Co., Inc. .. 80
Beveridge Paper Co., New Products Div.. 72
Booth, E. A., Rubber Co. 80
Brett Guard Co. 81
Burgess Cellulose Co. 71

Capital Tool & Mfg. Co. 77
Carlson, Chesley F., Co. 66
Central Compounding Co. 79
Certified Dry Mat Corp. 79
Chandler & Price Co. 75
Chemco Photoproducts Co., Inc. 19
Cheshire, Incorporated 24

Davidson Corporation 61
Dayton Rubber Co. 14, 15
Didde-Glaser, Inc. 3
Doyle, J. E., Co. 81
Dutro, Orville, & Son, Inc. 80

Eastern Newspaper Supply, Inc. 22
Electric Eye Equipment Co. 6, 20, 21

Flint, Howard, Ink Co. 69
Force, Wm. A., & Co., Inc. 68

Goss Printing Press Co., Div. Miehle-Goss-Dexter, Inc. 13
Graphic Arts Corp. of Ohio 16

Hammond Machinery Builders, Inc. ..... Inside back cover
Hantscho, George, Co., Inc. 29

Imperial Type Metal Co. 63, 64
Interchemical Corporation, Printing Ink Div. 8, 25
Intl. Printers Supply Salesman's Guild .. 78
Intertype Company .....Outside back cover

Korthe Engineering Co. 80

Lanston Monotype Co. 11
Ludlow Typograph Co. 7

Magnacraft Manufacturing Co. 12
Main, Chas. T., Inc. 77
Matrix Contrast Corp. 30
Mergenthaler Linotype Co. 57, 61
Minnesota Mining & Mfg. Co. 9, 10
Mohr Lino-Saw Co. 76
Morrison Company 70

Nolan Corporation 72, 81
nuArc Company, Inc. 80

Offen, B., & Co. 79

Printing Equipment Engineer 74, 80

Rapid Roller Co. 27
Richards, J. A., Co. 77
Rosback, F. P., Co. 18
Rouse, H. B., & Co. 62

Scott, Walter, & Co., Inc. 17
Sta-Hi Corporation 1
Statikil 81
Standard Process Corp. 16
Star Parts, Inc. .....Inside front cover, 75

Type & Press of Illinois, Inc. 78

Vandercook & Sons, Inc. 81

Wetter Numbering Machine Co. 61
Wood Flong Corp. 77
Wood Newspaper Machinery Corp. 4
Wiretyer Corporation 78

Hammond Machinery Builders INC.

1604 DOUGLAS AVENUE
KALAMAZOO, MICHIGAN

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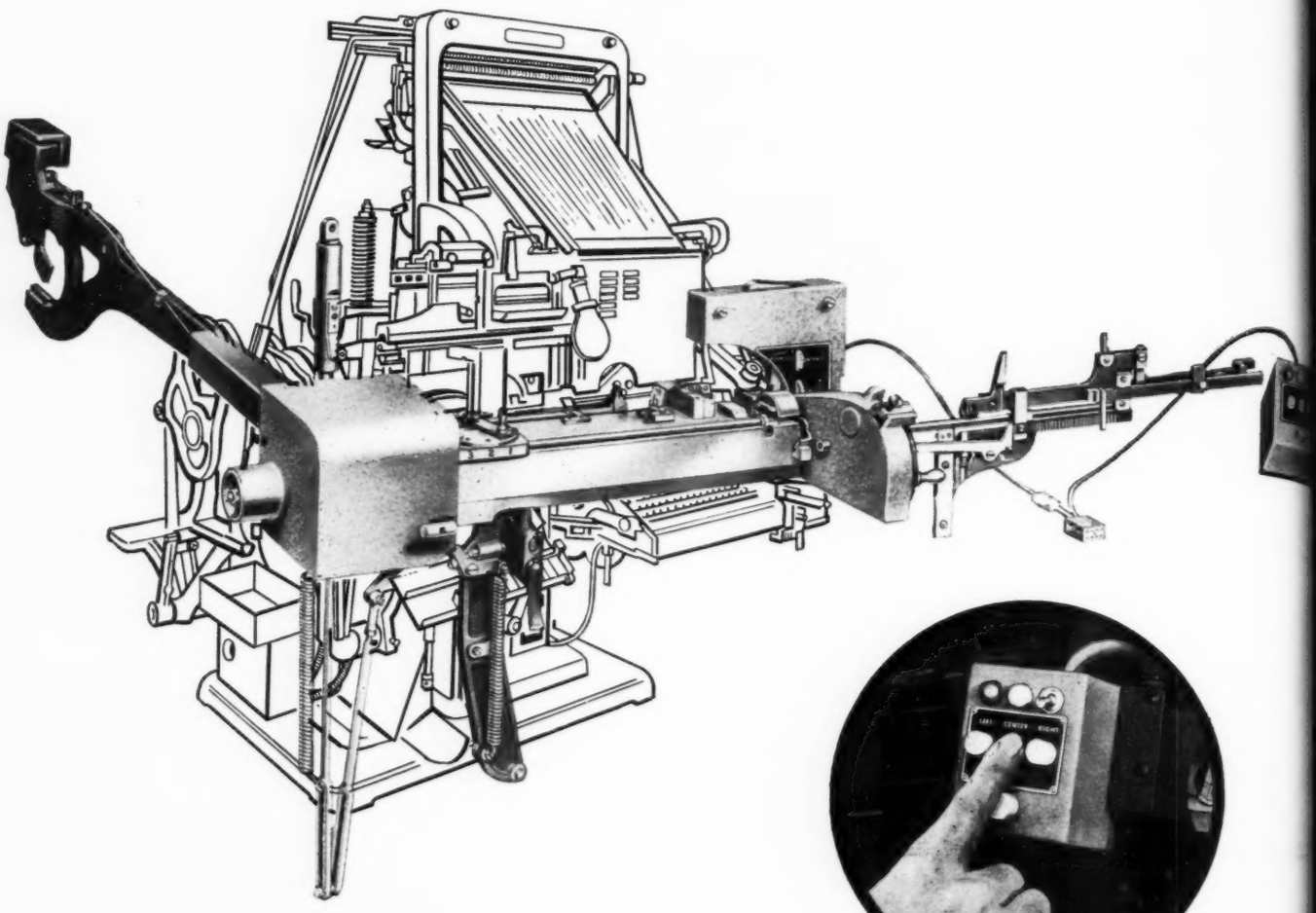
The Most Efficient Yet!

INTERTYPE DUAL DUTY QUADDER



Operates manually

Look! Compare! Here's a quadder that has everything! It serves a **Dual Duty** . . . operates manually or automatically without alteration. It's mechanical, simple and reliable. It sets . . .

- **Jaws, saw and assembler slide with only one control.**
- **All odd measures in any combination of picas and points.**
- **Automatic flush left on short lines.**

Yes, this new Dual Duty Quadder has everything you could ask for, including mechanical simplicity, which assures minimum maintenance. For all the details, write for Dual Duty Quadder Booklet.

Operates automatically

HARRIS INTERTYPE CORPORATION

Intertype Company

A Division of Harris-Intertype Corporation

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Chicago, San Francisco, Los Angeles, New Orleans, Boston
***In Canada:* Toronto Type Foundry Company Ltd., Toronto, Montreal, Winnipeg, Vancouver, Halifax**

Set in Cairo and News Gothic families

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